

# *Jellyfish<sup>®</sup> Filter*



## **Jellyfish<sup>®</sup> Filter Overview**

## About Imbrium® Systems

Imbrium® Systems is dedicated to protecting Canada's waterways. Based on our knowledge and experience in the Canadian stormwater industry, we have the ability to provide the most effective stormwater treatment technologies that capture and retain harmful pollutants from urban runoff before it enters our streams, rivers, lakes, and oceans.

Imbrium's engineered treatment solutions have been third-party tested and verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol to ensure performance in real-world conditions as designed. Our team of highly skilled engineers and partners provide the highest level of service from design to installation and long-term maintenance.

By working with Imbrium and our partners, you can expect superior treatment technology, unparalleled customer service, compliance with local stormwater regulations, and cleaner water. To find your local representative, please visit [www.imbriumsystems.com/localrep](http://www.imbriumsystems.com/localrep).



## Learn About the Jellyfish® Filter

Go online and watch our animation to learn how the Jellyfish Filter works. The animation also highlights important features of the Jellyfish Filter including...

- Applications
- Performance test results
- Inspection and maintenance
- Regulatory approvals

To view the Jellyfish Filter animation, visit:  
[www.imbriumsystems.com/jellyfish](http://www.imbriumsystems.com/jellyfish)



## Filtration as a Stormwater Management Strategy

Stormwater regulations are increasingly calling for more robust treatment levels. In addition to the removal of suspended solids, many regulations now require best management practices to remove significant amounts of nutrients, metals, and other common pollutants found in stormwater runoff. Meeting these regulations often requires the use of a filtration solution.

Low Impact Development (LID) and Green Infrastructure (GI) are complimented by filtration solutions. Benefits of LID and GI systems include retaining runoff and aesthetic appeal. Keeping LID and GI sites free from trash, fine sediment, oils, and debris while functioning as designed can be time consuming and costly.

As a result, the practice of combining LID and GI with filtration is becoming more common. Providing a single point of maintenance promotes proper system functionality and increases the aesthetic appeal by removing unsightly trash and debris.



A Jellyfish Filter Curb Inlet pretreats runoff entering a bioretention system.

## The Jellyfish® Filter - Setting New Standards in Stormwater Treatment

The Jellyfish Filter is a stormwater quality treatment technology featuring high surface area and high flow rate membrane filtration at low driving head. By incorporating pretreatment with light-weight membrane filtration, the Jellyfish Filter removes floatables, trash, oil, debris, TSS, fine silt-sized particles, and a high percentage of particulate-bound pollutants; including phosphorus and nitrogen, metals and hydrocarbons.

The Jellyfish Filter uses high surface area membrane cartridges that are lightweight, durable, rinsable, and reusable. The patented up-flow hydraulic design and passive backwash feature combined with the cartridge technology ensures long-lasting performance.



The Jellyfish Filter.



## Jellyfish® Filter Features and Benefits

Features	Benefits
High surface area membrane filtration	Low flux rate promotes cake filtration and slows membrane occlusion
High design treatment flow rate per cartridge (up to 5 L/s)	Compact system with a small footprint, lower construction cost
Low driving head (typically 457 mm or less)	Design flexibility, lower construction cost
Lightweight cartridges with passive backwash	Easy maintenance and low life-cycle cost

## Jellyfish® Filter Applications

- Urban development
- Highways, airports, seaports, and military installations
- Commercial and residential development, infill and redevelopment, and stormwater quality retrofit applications
- Pretreatment for Low Impact Development (LID), Green Infrastructure (GI), infiltration, and rainwater harvesting and reuse systems
- Industrial sites



A Jellyfish Filter pretreats a bioretention/bioswale system at a commercial site in Ontario, Canada.



A catch basin Jellyfish Filter is installed in a commercial development in Virginia USA.



A Jellyfish Filter provides treatment at an industrial park in Quebec, Canada.

## Jellyfish® Filter Field Performance Test Results

Pollutant of Concern	% Removal
Total Trash	99%
Total Suspended Solids (TSS)	89%
Total Phosphorus (TP)	77%
Total Nitrogen (TN)	51%
Total Copper (TCu)	>80%
Total Zinc (TZn)	>50%

*Sources:*

*TARP Field Study – 2012 JF 4-2-1 Configuration*

*MRDC Floatables Testing – 2008 JF6-6-1 Configuration*

*TAPE Field Study – 2020 JF6-6-1 Configuration*



The pleated tentacles of the Jellyfish Filter provide a large surface area for pollutant removal.

## Jellyfish® Filter Certifications and Verifications

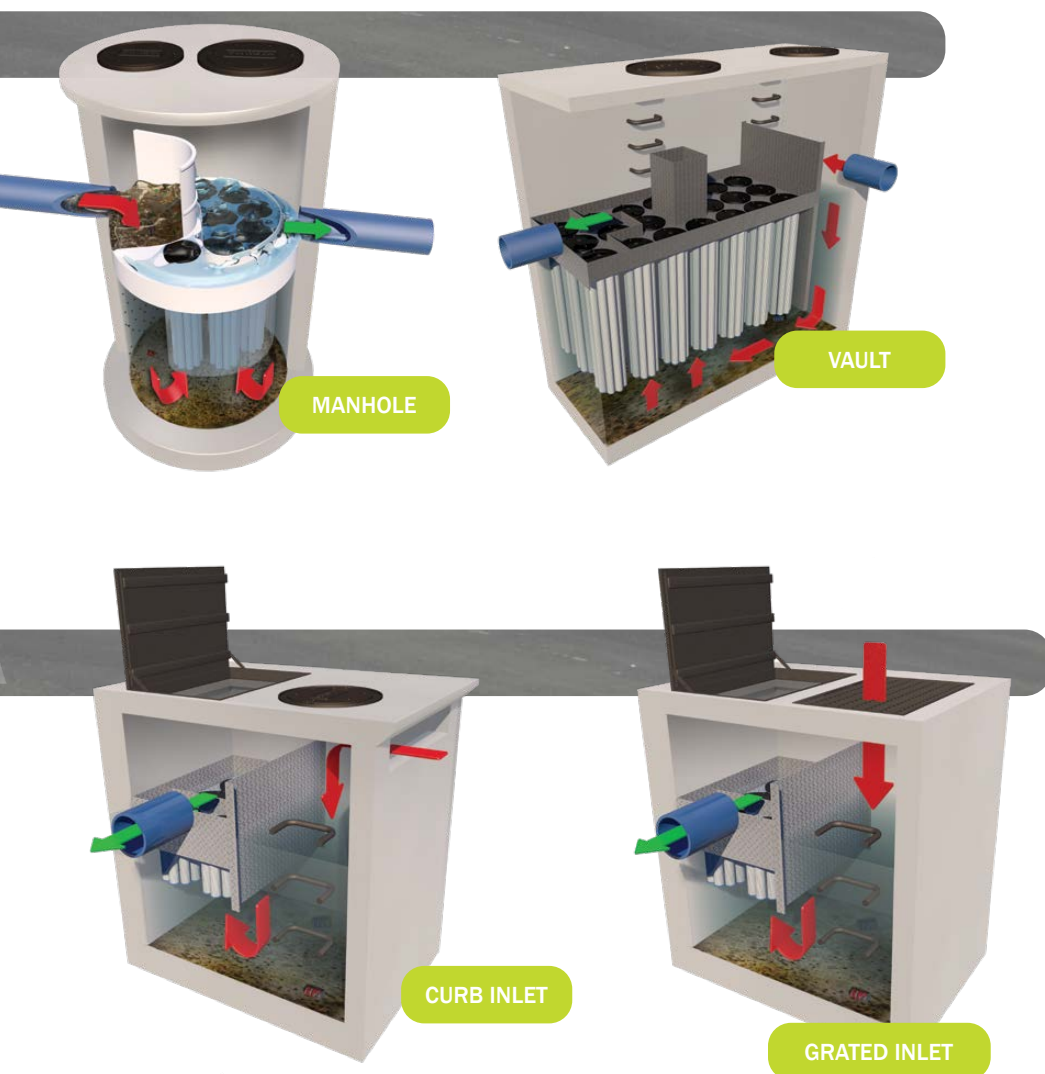
The Jellyfish Filter is approved through numerous state, provincial, and federal agencies and verification programs, including:

- **Canada ISO 14034 Environmental Management – Environmental Technology Verification (ETV)**
- Ontario Ministry of the Environment – New Environmental Technology Evaluation (NETE) – Certification
- New Jersey Corporation for Advanced Technology (NJCAT) – Field Performance Verification per TARP Tier II Protocol
- Washington State Department of Ecology (TAPE –CULD)
- Maryland Department of the Environment (MD DOE)
- Texas Commission on Environmental Quality (TCEQ)
- Virginia Department of Environmental Quality (VA DEQ)
- New York Department of Environmental Conservation (DEC)



## Jellyfish® Filter Configurations

The Jellyfish Filter is available in a variety of configurations. Typically, 457 mm (18 inches) of driving head is designed into the system. For low drop sites, the designed driving head can be less.



### Lightweight Jellyfish Filter Configurations

Custom configurations include tanks made from fiberglass for site specific applications.



A Jellyfish Filter was constructed from fiberglass to reduce the weight of the system, allowing for a suspended installation above an underground parking structure. The reduced weight eliminated the need for structural changes, and suspending the Jellyfish resulted in no loss of parking space, maximizing real-estate value.

Other custom configurations include:

- On-line capability (internal bypass)
- Peak Diversion Vault Configurations



## Jellyfish® Filter Maintenance

Inspection and maintenance activities for the Jellyfish Filter typically include:

- Visual inspection of deck, cartridge lids, and maintenance access wall.
- Vacuum extraction of oil, floatable trash/debris, and sediment from the manhole sump.
- External rinsing and re-installing of filter cartridges.
- Replacement of filter cartridge tentacles as needed. Cartridge replacement intervals vary by site; typical replacement is anticipated every 2-5 years.



The Jellyfish Filter cartridge is light and easy to clean.

Watch the Jellyfish Filter inspection  
and maintenance video at  
[www.imbriumsystems.com/jellyfish](http://www.imbriumsystems.com/jellyfish)





## STORMCEPTOR EF SYSTEM

The enhanced flow "EF" Stormceptor® effectively targets sediment (TSS), free oils, gross pollutants and other pollutants that attach to particles, such as nutrients and metals, Stormceptor delivers protection 24/7.



## FILTERRA BIORETENTION

The Filterra® Bioretention System is an engineered biofiltration device with components that make it similar to bioretention in pollutant removal and application, but has been optimized for high volume/flow treatment in a compact system.



## LITTATRAP CATCH BASIN

The LittaTrap™ is a simple and effective solution to remove sediment and trash from stormwater systems at its source. The LittaTrap sits inside the storm drain and captures and retains sediment and trash before it enters stormwater infrastructure, effectively pretreating downstream structures and aiding in pollutant removal.

### LEARN MORE

- Access project profiles, photos, videos, and more online at [www.imbriumsystems.com/jellyfish](http://www.imbriumsystems.com/jellyfish).

### REQUEST DESIGN ASSISTANCE

- Call us at (888) 279-8826 or 301-279-8827 to talk to one of our engineers for technical support or design assistance.

### START A PROJECT

- Submit your system requirements on our product Design Worksheet at [www.imbriumsystems.com/pdw](http://www.imbriumsystems.com/pdw).

### FIND A LOCAL REPRESENTATIVE

- Visit [www.imbriumsystems.com/localrep](http://www.imbriumsystems.com/localrep) for contact information for your local Imbrium representative.



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Imbrium® Systems is an engineered stormwater treatment company that designs and manufactures stormwater treatment solutions that protect water resources from harmful pollutants. By developing technologies to address the long-term impact of urban runoff, Imbrium ensures our clients' projects are compliant with government water quality regulations. For information, visit [www.imbriumsystems.com](http://www.imbriumsystems.com) or call +1 416-960-9900.

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