

Gutter Bin[®]

Because Clean Water Is a Good Thing[™]



Get your mind into the Gutter[™]



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The Gutter Bin[®] stormwater filtration system and Mundus Bag[®] water filter are patent pending

About Frog Creek Partners



Frog Creek Partners is an environmental technology company that specializes in stormwater filtration and pollution measurement services. Our flagship products are the **Gutter Bin**® stormwater filtration system and **Mundus Bag**® water filter. Together they create the most easily maintained, versatile, and effective stormwater filter on the market.

Because Clean Water is a Good Thing™

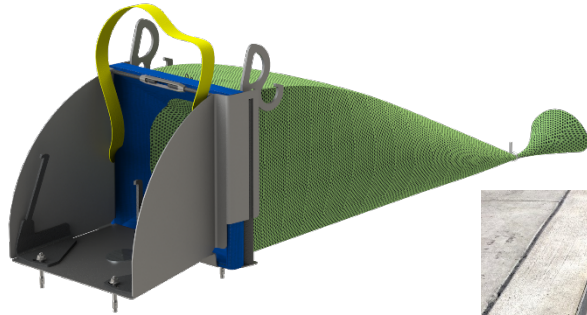


Channel Filter System (CFS) Gutter Bin® Stormwater Filtration System

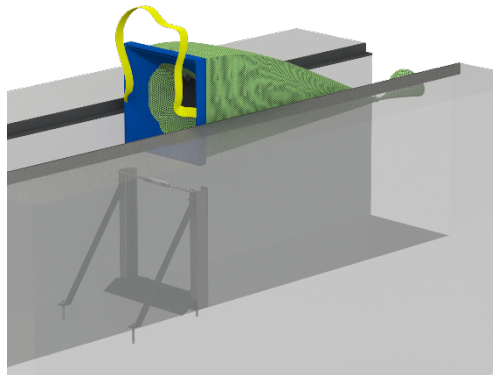


**CERTIFIED 100% TRASH
CAPTURE DEVICE IN CALIFORNIA**

The Channel Filter System Gutter Bin model provides unparalleled protection for trench drains and accepts the full line of Mundus Bag® water filters.



Ideally suited for industrial sites, shops and parking lots where hydrocarbons and heavy metal discharge is a problem



Product Highlights

- The easiest and only product on the market for trench drain filtration
- Customizable filtration by location or season
- Stainless steel or weathering steel construction to meet local & federal regulations
- Measurable results
- Variable depth and width configurations available for any size trench drain system
- Can be used in conjunction with customizable filtration Mundus Bag options
- Compatible with 9, 13, & 16 inch Mundus Bag
- Can be used in conjunction with connector pipe screens (CPS)
- Used as a pre-treatment solution for subterranean infiltration systems
- Backflow preventer retains pollution
- 7-year limited warranty

It only takes a 3 – 5 minutes to service a Gutter Bin!

Mundus Bag® Water Filter

Gutter Bin® Stormwater Filtration Media

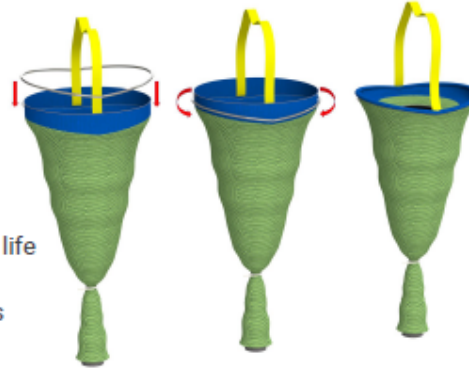
100% TRASH CAPTURE



The patent pending Mundus Bag® water filter removes a broad spectrum of sediment, trash and hydrocarbons from stormwater. It integrates fully with the complete line of Gutter Bin stormwater filtration systems.

Product Specifications

- Adjustable backflow preventer
- Variable depth for deep or shallow catch basins
- Integrated lifting straps for quick removal
- UV resistant durable construction for extended field life
- Single use and reusable models available
- Easily weighed for measurable & quantifiable results
- Cleaned by dumping, vac truck or bag replacement
- To service: load Mundus Hoop, wrap anchor, ready to filter



| Targeted Pollution | Model | Filter Media |
|--|-------|---|
| 100% Total Trash Capture (Trash & debris > 4 mm) | TTC | polypropylene net |
| Trash, Debris & Sediment (80% TSS capture) | TDS | geofabric |
| Hydrocarbons, Sediment, & Trash | HST | Mycelx, geofabric |
| Sediment, Hydrocarbons, Heavy Metals, & Trash | SHHT | Granulated activated carbon, adsorbent, Mycelx, geofabric |

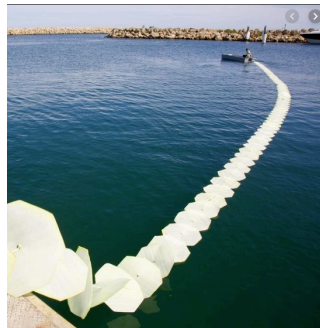
| Model | Bag dia (inches) | Max capacity (cu.ft) | Aperture size - particle retention (mm) (X 1000 for micron) | Min/Max length of filter (in) | Max capture load (lbs) | Max load rating of filter bag (lbs) | Empty bag flow rate (gpm) | Reusable | Est. useful life (months) |
|----------|------------------|----------------------|---|-------------------------------|------------------------|-------------------------------------|---------------------------|----------|---------------------------|
| TTC-9 | 9 | 1.77 | 3.5 | 12/48 | 33 | 291 | 1,037 | Yes | 6-18 |
| TTC-9D* | 9D | 1.77 | 3.5 | 12/48 | 33 | 291 | 2,074 | Yes | 6-18 |
| TTC-13 | 13 | 3.14 | 3.5 | 12/48 | 59 | 517 | 2,153 | Yes | 6-18 |
| TTC-14 | 14 | 4.27 | 3.5 | 12/48 | 80 | 704 | 2,615 | Yes | 6-18 |
| TTC-16 | 16 | 5.58 | 3.5 | 12/48 | 104 | 920 | 3,447 | Yes | 6-18 |
| TDS-9 | 9 | 1.77 | 0.21 | 12/48 | 242 | 291 | 1,037 | No | 3-12 |
| TDS-9D* | 9D | 1.77 | 0.21 | 12/48 | 242 | 291 | 2,074 | No | 3-12 |
| TDS-13 | 13 | 3.14 | 0.21 | 12/48 | 431 | 517 | 1,935 | No | 3-12 |
| TDS-14 | 14 | 4.27 | 0.21 | 12/48 | 587 | 704 | 2,125 | No | 3-12 |
| TDS-16 | 16 | 5.58 | 0.21 | 12/48 | 766 | 920 | 2,428 | No | 3-12 |
| HST-9 | 9 | 1.77 | 0.21 | 12/48 | 242 | 291 | 1,037 | Partial | 3-12 |
| HST-9D* | 9D | 1.77 | 0.21 | 12/48 | 242 | 291 | 2,074 | Partial | 3-12 |
| HST-13 | 13 | 3.14 | 0.21 | 12/48 | 431 | 517 | 1,935 | Partial | 3-12 |
| HST-14 | 14 | 4.27 | 0.21 | 12/48 | 587 | 704 | 2,125 | Partial | 3-12 |
| HST-16 | 16 | 5.58 | 0.21 | 12/48 | 766 | 920 | 2,428 | Partial | 3-12 |
| SHHT-9 | 9 | 1.41 | 0.10 | 24/72 | 194 | 233 | 410 | Partial | 3-12 |
| SHHT-9D* | 9D | 1.41 | 0.10 | 24/72 | 194 | 233 | 820 | Partial | 3-12 |
| SHHT-13 | 13 | 2.51 | 0.10 | 24/72 | 242 | 414 | 581 | Partial | 3-12 |
| SHHT-14 | 14 | 3.42 | 0.10 | 24/72 | 431 | 563 | 637 | Partial | 3-12 |
| SHHT-16 | 16 | 4.47 | 0.10 | 24/72 | 587 | 736 | 728 | Partial | 3-12 |

MYCELX Filter Media



Frog Creek Partners teamed up with MYCELX to make one of the best stormwater filter in the world

Rapid Deployment Boom for shoreline protection



Smart Pads for localized oil spills



Snippet Bag for oil & water separation



Why is MYCELX capture media the best?

- permanently bonds with and remove oils, grease and other hydrocarbons from water
- no desorption
- 99.999% TPH, oil & PCB removal
- non-toxic & safe for the environment
- certified by United States Coast Guard
- absorbs 10Xs more TPH and oil, 10Xs faster
- absorbs up to 8Xs weight of filter media
- no water retention keeps media lightweight
- zero environmental impact throughout manufacturing, handling and spill capture deployment
- SAFE TO HANDLE

A Port of Long Beach marine terminal tenant addresses hydrocarbon and heavy metal pollution

Frog Creek Partners (FCP) partnered with MYCELX, a provider of oil-free water solutions, to develop an inlet filtration system for industrial facilities that proves successful at removing over 95% of heavy metals and TSS, over 91% of hydrocarbons, and 100% of trash. Utilizing proprietary filtration media that facilitates molecular cohesion to remove pollutants, the technology ensured that the Port of Long Beach marine terminal achieved baseline compliance with their California Industrial General Permit (IGP) requirements during the pilot project. FCP paired the customizable SHHT Mundus Bag® water filter and the Gutter Bin® Channel Filter System (CFS) with MYCELX technology to tailor filtration at the site, thus significantly reducing the operating cost and overall pollution discharge from the port's stormwater network and resulting in a healthier marine environment. The customer has since expanded their Gutter Bin project based upon the first year's successful results.



Channel Filter System (CFS)

Key takeaways:

- Over 91% removal efficiency of target pollutants
- 95% CapEx savings compared to next best alternative
- Customer remains at baseline regulatory compliance
- Project expansion because of successful results



Mundus Bag® Test Results



A representative pollution sample from an industrial port facility filtered through a single SHHT model Mundus Bag® achieved these results.

Table 1 (before Mundus Bag filtration)



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LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Frog Creek Partners
Project:
Lab ID: C18110360-001
Client Sample ID: Unfiltered 1

| Analyses | Result | Units | Qualifiers | RL |
|-------------------------------------|--------|-------|------------|-------|
| PHYSICAL PROPERTIES | | | | |
| pH | 7.09 | s.u. | H | 0.01 |
| pH Measurement Temp | 17 | °C | | |
| Solids, Total Suspended TSS @ 105 C | 33400 | mg/L | D | 200 |
| METALS, TOTAL RECOVERABLE | | | | |
| Aluminum | 378 | mg/L | | 0.03 |
| Copper | 30.0 | mg/L | D | 0.02 |
| Iron | 1380 | mg/L | D | 0.5 |
| Lead | 4.10 | mg/L | | 0.001 |
| Zinc | 427 | mg/L | D | 0.07 |
| ORGANIC CHARACTERISTICS | | | | |
| Non-polar Materials (SGT-HEM) | 110 | mg/L | | 5 |

Table 2 (after Mundus Bag filtration)

Client: Frog Creek Partners
Project:
Lab ID: C18110360-002
Client Sample ID: Filtered 2

| Analyses | Result | Units | Qualifiers | RL |
|-------------------------------------|--------|-------|------------|-------|
| PHYSICAL PROPERTIES | | | | |
| pH | 7.27 | s.u. | H | 0.01 |
| pH Measurement Temp | 16 | °C | | |
| Solids, Total Suspended TSS @ 105 C | 32 | mg/L | D | 10 |
| METALS, TOTAL RECOVERABLE | | | | |
| Aluminum | 1.21 | mg/L | | 0.03 |
| Copper | 0.117 | mg/L | | 0.005 |
| Iron | 2.37 | mg/L | | 0.02 |
| Lead | 0.009 | mg/L | | 0.001 |
| Zinc | 1.02 | mg/L | | 0.01 |
| ORGANIC CHARACTERISTICS | | | | |
| Non-polar Materials (SGT-HEM) | ND | mg/L | | 5 |

**OVER 99%
REDUCTION OF
WATER
POLLUTION**

Actual Water Test Results from Industrial General Permittee at a Marine Terminal



Pre Gutter Bin Average

Post Gutter Bin Average

| | Test Results | Test Results | Percent Reduction | Numeric Annual Action Limit (NAL) |
|-------------------|--------------|--------------|-------------------|-----------------------------------|
| Hydrocarbons mg/L | 39.1 | 3.42 | -91.26% | 15 |
| TSS mg/L | 899 | 37.97 | -95.78% | 100 |
| Aluminum mg/L | 12.07 | 0.5293 | -95.61% | 0.75 |
| Copper mg/L | 0.536 | 0.0238 | -95.55% | 0.0332 |
| Iron mg/L | 25.8 | 0.889 | -96.56% | 1 |
| Lead mg/L | 0.0918 | 0.0038 | -95.83% | 0.262 |
| Zinc mg/L | 5.55 | 0.1818 | -96.73% | 0.26 |

Note: NAL is highest value allowed for permittee to be considered baseline compliant. Multiple water samples were taken by a qualified third-party water sampler over multiple seasons. Permittee remains at baseline with the help of Frog Creek Partners Gutter Bins equipped with SHHT Mundus Bags.

Lessons Learned from POLB Case Study



- Must pre-wet the Performer media prior to sampling for best results
- Sample when CFS is not in bypass mode
- Prefilter the gross pollutants with TDS-MB prior SHHT-MB
- Enable and ensure that people use proper sampling techniques to avoid parameter spikes
- Additional BMPs may be necessary

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Brian Deurloo

President & Founder
Frog Creek Partners, LLC
800 W. Yellowstone Hwy
Casper, WY 82601 USA
(307) 439-9570
brian@frogcreek.partners
www.GutterBin.com



**References to data and statistics available upon request*

Whether you think you can or you can't, you are probably right – Henry Ford

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