Ultra-Urban Filter Technical Specifications

The Ultra-Urban® Filter with Smart Sponge® developed and manufactured by AbTech Industries, is an innovative low-cost BMP that helps meet NPDES requirements with effective filtration, efficient application, and low maintenance. It is a true water filter that ensures that the water flowing through the system is properly and completely treated. This solution is used to treat stormwater runoff for new or retrofitted sites by absorbing oil and grease and capturing trash and sediment. In addition, AbTech's Smart Sponge Plus® has the ability to destroy bacteria, making it a truly comprehensive solution geared at removing key contaminants and pollutants from stormwater runoff.

The Ultra-Urban Filter is ideal for municipal, industrial, and construction applications ensuring compliance with stormwater regulations. The filter comes in two standard designs; one a modular unit geared toward curb inlet openings, and the other, a single unit designed for typical drop-in catch basin drains.

Applications

AbTech's Ultra-Urban® Filter is an ideal solution for new or existing applications. It can be deployed in:

- Municipal Stormwater Drains
- Shopping Center Parking Lot Drains
- Parking Structures
- Airport Tarmac Drains and Fuel Farms
- Commercial Fuel Distributor Facilities
- Commercial and/or Residential Developments
- Truck Stops

How it Works

The Ultra-Urban Filter, made of a high strength corrugated recycled content plastic, is designed for use in storm drains that experience oil and grease pollution accompanied by sediment and debris. Trash and sediment accumulate in the upper basket chamber while oil and grease are absorbed in the filtration media.

Proven Performance

Field and laboratory tests have confirmed the capability of the Smart Sponge to absorb, depending on the type of oil contaminant, up to three times its own weight and remove up to 95% of the hydrocarbons present in Stormwater runoff, typically in the range of 5 to 30 mg/liter (ppm). The captured oil is permanently bound within the Smart Sponge, eliminating leaching and allowing for easy disposal of the filtration media. Flow rates through the filters have been tested to exceed 500 gpm for the DI2020 series at installation.

Key Benefits:

- Low maintenance cycle
- Simple installation
- Easily maintained from the street
- Proven field performance
- Cost effective way to comply with stormwater regulations

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Easy Installation

The Ultra-Urban Filter is easily installed. Installation time varies depending upon mounting devices selected. A single mounting bracket made of 16-gauge galvanized steel is required for the installation of the Curb Opening (CO) series. The Ultra-Urban Filter should not be installed where modules obstruct the drain pipe outlet. The size of the drain should allow room for stormwater overflow. The Drain Inlet (DI) series Ultra-Urban Filter will suspend from the drain into the catch basin through a structural plastic mount and funnel mechanism.

Low Maintenance

The Ultra-Urban Filter should be serviced as needed to remove sediment and debris, according to expected debris accumulation. The sediment and debris can be quickly vacuumed out of the modules through the opening of the drain with conventional maintenance equipment. For example, a curb inlet with four to five Ultra-Urban Filter modules can typically be serviced in 10 minutes or less. Under normal operating conditions the Ultra-Urban Filter should be replaced every 1-3 years.

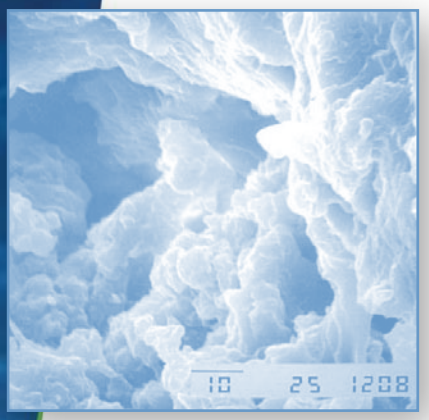

Figure A (1,000 X)

Proven Technology

AbTech developed the Smart Sponge technology based on its proprietary blend of synthetic polymers aimed at removal of hydrocarbons and oil derivatives from surface water. AbTech's process creates a very porous structure (see Figure A) with hydrophobic and oleophilic characteristics capable of selectively removing hydrocarbons while allowing high flow through rates for water. As hydrocarbons are absorbed into its structure, the Smart Sponge® swells and maintains porosity and filtering capabilities.

Antimicrobial Solution

AbTech Industries has successfully deployed its patented antimicrobial technology, Smart Sponge Plus®, which features an antimicrobial agent chemically and permanently bound to the Smart Sponge® polymer surface. The antimicrobial mechanism is based on the patented agent's interaction with the microorganism cell membrane, causing the microorganism disruption – but no chemical or physical change in the agent. Antimicrobial activity does not reduce the agent's capability or cause its depletion and, therefore, maintains long-term effectiveness. Additionally, the hydrocarbon absorption capability is not inhibited. Targeted bacteria include enterococcus and coliforms (such as fecal coliforms and Escherichia coli).

Even though consistent positive reduction in microbial concentration has been realized in laboratory settings and field testing sites, it is important to note that microbial reduction efficiency will vary depending on colony size, flow rates, and site specific conditions. As with all AbTech products, field deployment and data generation projects are ongoing.

Targeted Microorganisms

Enterococcus

Coliforms

- Fecal coliform
- Escherichia Coli

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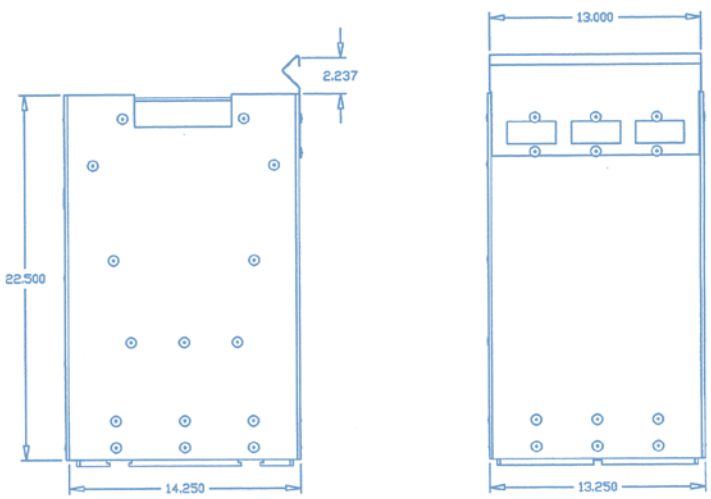
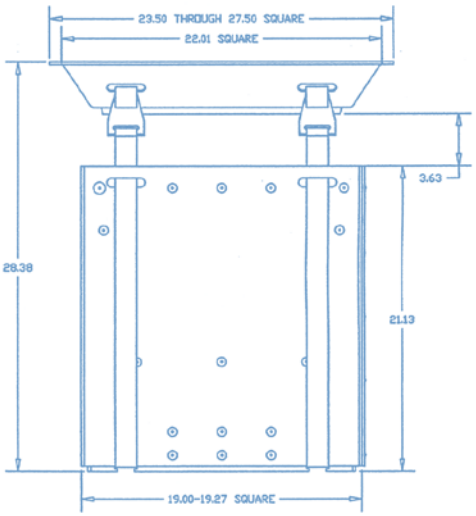
Ultra-Urban® Filter Drawings

Complete product drawings for each model available from AbTech in CAD or PDF format.



CO1414N Side and Front View



DI2020N

Ultra-Urban® Filter Key Features

Part #	Description	Dimensions	Gross Weight (approx.)	
			With Smart Sponge®	Trash & Debris Only
Curb Opening Module:				
CO1414N	UUF, Normal Size	13.25" x 14.25" x 22.5"	20 lbs.	5.5 lbs.
CO1414H	UUF, Half Size	13.25" x 14.25" x 13"	13 lbs.	4.5 lbs.
Drain Insert Module:				
DI1414N	UUF, Normal Size	13.25" x 14.25" x 21.125"	20 lbs.	5.6 lbs.
DI1414H	UUF, Half Size	13.25" x 14.25" x 13"	13 lbs.	4.5 lbs.
DI1420N	UUF, Normal Size	14" x 19.25" x 21.125"	24 lbs.	6.5 lbs.
DI1420H	UUF, Half Size	14" x 19.25" x 13.375"	18 lbs.	5.0 lbs.
DI1616N	UUF, Normal Size	16" x 16" x 21.125"	24 lbs.	6.5 lbs.
DI1616H	UUF, Half Size	16" x 16" x 13.375"	18 lbs.	5.0 lbs.
DI2020N	UUF, Normal Size	19.25" x 19.25" x 21.125"	30 lbs.	7.5 lbs.
DI2020H	UUF, Half Size	19.25" x 19.25" x 13.375"	22 lbs.	6.0 lbs.

Disposal Options

As local conditions, product use, and exposure can vary widely, the end user must determine the most appropriate disposal method for a spent Smart Sponge® or Smart Sponge Plus® product. However Smart Sponge® samples saturated with hydrocarbons both in the lab and in the field have been tested according to the EPA's Toxicity Characteristic Leaching Procedure ("TCLP"). These tests show that Smart Sponge® is a "non-leaching" (i.e., non-detect or "N.D.") product. As a result, Smart Sponge® technology can afford many cost effective and environmentally friendly disposal options. The following waste disposal and resource recovery industries have accepted spent Smart Sponge® products for disposal and/or recycling.

Waste-to-Energy Facilities - A specialized segment of the solid waste industry has used spent Smart Sponge® as an alternative fuel in the production of electricity. WTE is acknowledged at the federal level as a renewable energy source under the Federal Power Act, Title IV of the Clean Air Act and is a participant in the Department of Energy's National Renewable Energy Program.

Cement Kilns - This industry has used the spent Smart Sponge® as an alternative fuel in the production process of Portland Cement. This process is considered a beneficial reuse of waste products. The BTU value of spent Smart Sponge® is consistently above the average acceptable levels set for this high temperature.

Landfills - As discussed above, spent Smart Sponge® products have been classified as a solid waste and have been accepted at Subtitle D Landfills.

For more information about the Smart Sponge® technology,
visit **www.abtechindustries.com** or call **1-800-545-8999**.

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