

Hydro DryScreen®

Next Generation Baffle Box

Product Summary

Sediment, Nutrients, and Trash Removal in One Device

Hydro DryScreen® is a next generation baffle box designed to effectively remove a wide range of solids from stormwater runoff. It augments the typical baffle box design, wherein vertical baffles are used to create a series of sediment settling chambers, with a patented flow-diffusing mechanism to improve sediment capture and maximize screen surface area.

Product Components

- | | |
|---------------------------------|---------------------------|
| 1. Inlet Pipe | 5. Vertical Screened Weir |
| 2. Access Lids | 6. Flow Spreader |
| 3. Precast Vault | 7. Sediment Storage Sump |
| 4. Adjustable Height Dry Screen | 8. Outlet Pipe |

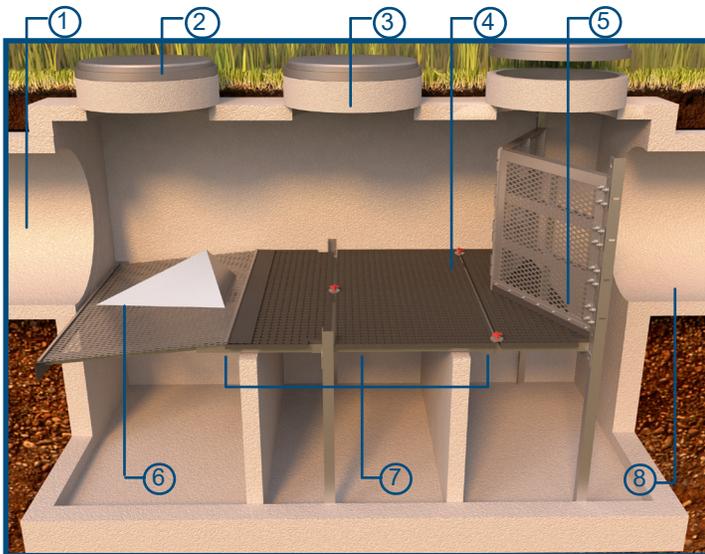


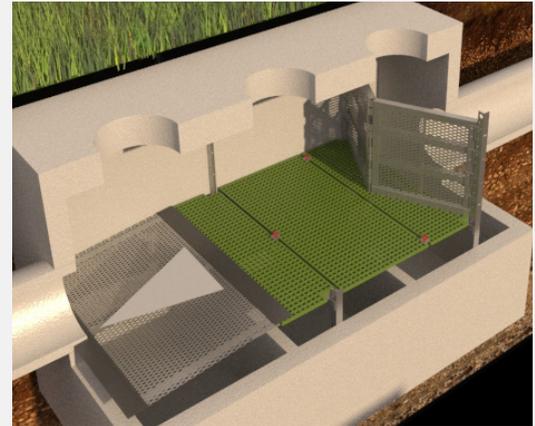
Fig.1 The Hydro DryScreen® has internal components designed to increase particulate pollutant capture and minimize nutrient leaching.

Applications

- » Removal of leaf litter, total suspended solids (TSS) and trash from stormwater runoff
- » New construction or redevelopment of commercial and residential sites
- » Retrofit installations onto previously existing storm drain lines
- » Shallow installations where high groundwater or bedrock present excavation challenges
- » Installations requiring low headloss, such as drainage profiles with very little slope

How it Works

Maximize Screen Surface Area



As stormwater enters the Hydro DryScreen® chamber, the flow is diffused and slowed by the Flow Spreader. Gross solids are conveyed around the spreader and captured on the horizontal screen (Fig.1). This process enables our screen to go four times longer before blinding compared to other next generation baffle boxes.

As the flow encounters the first baffle wall, the velocity slows again allowing particles to settle. Other solids in the flow stream strike the baffle wall and settle to the sump where their further movement is impeded by the presence of the baffle. Flow continues through the next two baffle chambers where smaller particles settle.

Benefits

- » Captures and retains a wide range of solid and particulate pollutants
- » Organic debris is stored dry, preventing nutrient leaching between storm events
- » Larger screenings storage capacity than other baffle boxes
- » Patented flow spreader slows influent flows to increase sediment settling
- » Horizontal screen elevation can be adjusted to account for tail water or base flows
- » Extensive range of available models treat a wide range of flows



Stormwater Solutions

→ hydro-int.com/dryscreen

Sizing & Design

Hydro DryScreen® can be used to meet a wide range of stormwater treatment objectives and is available in five precast models that fit into existing drainage networks (**Table 1**). Selection of the appropriate model depends on pollutant removal targets, site hydraulics, site constraints and local regulations.

Free Hydro DryScreen® Sizing Calculator for Engineers



This simple tool will recommend the best baffle box size and arrangement based on site-specific data entered by the user. Go to hydro-int.com/dryscreensizing to access the tool.

Maintenance

Hydro DryScreen® was designed with maintenance in mind. From access and inspection to cleanout procedures, servicing this device is quick and simple.



Design Notes

- **Drainage Profile:** Headloss across the Hydro DryScreen® is minimal, therefore it can fit onto almost any new or pre-existing drainage line.
- **Trash and Debris Removal:** Leaf litter, trash and other screenable debris is captured and stored above the standing water level, preventing pollutant leaching between storm events.
- **Total Settleable Solids (TSS) Removal:** Conventional sedimentation is enhanced by patented flow-distribution technology that spreads and slows the flow at the inlet to allow more solids to settle.
- **Conveyance Capacity:** Hydro DryScreen® is designed to be placed on the main drainage line. It accommodates large pipe sizes and large peak flows.

Table 1. Hydro DryScreen® Specifications Chart¹.

Hydro DryScreen™ Dimensions		Maximum Treatment Capacity		Typical Treatment Flow Rate		Maximum Pipe Diameter		Screenings Storage Capacity		Sediment Storage Capacity	
(ft)	(m)	(cfs)	(L/s)	(cfs)	(L/s)	(in)	(mm)	(yd³)	(m³)	(yd³)	(m³)
4 x 8	1.2 x 2.4	29	821	11	303	30	762	2.2	1.7	3.6	2.8
6 x 12	1.8 x 3.7	66	1,869	24	681	42	1,067	6.6	5.0	8.0	6.1
8 x 14	2.4 x 4.3	93	2,633	37	1,060	48	1,219	11.9	9.1	13.8	10.6
10 x 16	3.0 x 4.9	124	3,511	53	1,514	54	1,372	19.2	14.7	22.7	17.3
12 x 20	3.7 x 6.1	162	4,587	80	2,262	60	1,524	35.0	26.8	35.4	27.1

¹ This table is intended to be used as a guide for selecting standard model sizes. Contact Hydro International for custom sizing.



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Access the Operation & Maintenance Manual

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