

HydroChain™ Prime Separator

Hydrodynamic technology for advanced stormwater management

The physical technology of the Prime Separator removes sediment, solids and heavy metals from stormwater runoff. Most contamination in stormwater is carried by fine particles. Unlike treatment systems that reduce only sand fractions, the separator reduces both silt and sand fractions.

The HDPE unit's inner cylinder separates the water to be treated from floatable materials such as plastic bottles, cans, oil and pollen. The separator is designed to prevent resuspension of sediment.

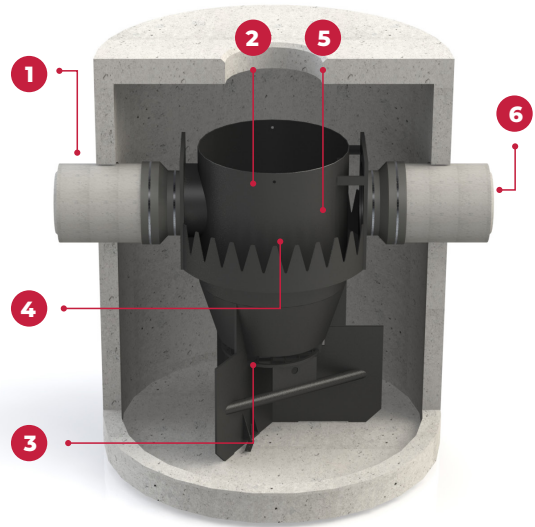
Protecting the environment

Stormwater runoff is a significant cause of water pollution. Engineered to meet the most stringent North American and global standards, this separator removes contaminants and produces water clean enough to re-enter surface water, waterways and groundwater infiltration systems.



How the Prime Separator works

- 1 Stormwater flows through the inlet pipe and deflector into the center of the separator where radial flow or low energy vortex is occurring.
- 2 Settleable sediments sink to the bottom of the manhole or tank and floatable matter remains on the surface of the water.
- 3 Pollutants that settle are retained in the sump, which is separated hydraulically from the separation zone by flow breakers and a grate. Suspended and settled solids are periodically cleaned out.
- 4 Treated water flows evenly upward, along the walls of the internal components and manhole.
- 5 Flow continues over a serrated weir into a channel.
- 6 Treated water flows out of the separator through the outlet pipe.



Maximum treatment levels
up to 7.0 cubic feet /
200 liters per second

Oil & debris storage capacities
up to 830 gallons /
3,140 liters

Sediment storage capacities
up to 6.5 cubic yards /
5.0 cubic meters

Installed in manholes, tanks or vaults
that are designed to withstand H-25/HS-25 axle loads

HydroChain™ Prime Separator

Flexible design for stormwater systems of any scope

The Prime Separator can be used as a single unit or in a series as part of any stormwater management system. It can be installed in a fiberglass or concrete manhole, tank or vault.

Removal performance

POLLUTANTS	REMOVAL %
Trash and debris	> 90 %
Total petroleum hydrocarbons	> 65 %
Total suspended solids (TSS)	> 50 %
Total heavy metals	> 50 %



Prime Separator design guide

PRIME SEPARATOR (MANHOLE DIAMETER)	STANDARD (PIPE DIAMETER)	SUMP DEPTH	OVERALL HEIGHT	OIL STORAGE VOLUME	SEDIMENT STORAGE VOLUME
	IN	FT	FT	GAL	YD ³
4'	12.0	4.65	8.0	104	0.85
5'	15.0	4.65	8.0	104	1.48
6'	18.0	4.52	8.0	207	2.14
7'	24.0	4.08	8.0	297	2.60

Not all available models or pipe sizes are shown. Contact stormwatersales@mattr.com for help selecting the correct model for site specific and pollutant removal requirements.

HydroChain: Backed by decades of engineering design expertise

- 40+ years of composite vessel manufacturing
- 20+ years of stormwater treatment technology
- Site-specific product design by in-house stormwater experts
- Stringent quality-control of manufacturing
- Decades of successful installations

For new and retrofit stormwater systems

- Industrial and commercial sites
- State, provincial and municipal transportation facilities
- Housing developments
- Government facilities
- Highway lane expansion
- Parking ramps and lots
- Schools and athletic facilities
- Health care facilities
- Airports
- Retail fuel and truck stops

Designed for easy installation and operation

- Flow rate for treatment
- Volume to be treated
- Treatment requirements

For over 40 years, Xerxes has designed and manufactured fiberglass underground storage tanks for fuel, water and wastewater. Xerxes' most recent expansion is its HydroChain™ product line. These highly engineered products with site-specific designs provide a complete stormwater management solution. Xerxes is a key brand of Mattr, a global materials technology company serving critical infrastructure markets.