

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. Stormwater runoff is a significant cause of water pollution. Engineered to meet the most stringent North American and global standards, this separator removes contaminants before the stormwater flows into surface water, waterways and groundwater infiltration systems.

Prime Separator Specifications

Maximum Treatment Levels

up to 7.0 cubic feet / 200 liters per second

Sediment Storage Capacities

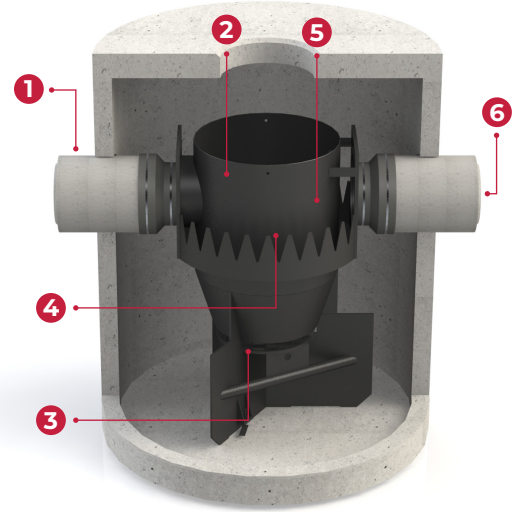
up to 6.5 cubic yards / 5.0 cubic meters

Oil & Debris Storage Capacities

up to 830 gallons / 3,140 liters

Installed in Manholes, Tanks or Vaults

that are designed to withstand H-25/HS-25 axle loads



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.

Working on a project?

Go to **Find a Rep at [xerxes.com](https://www.xerxes.com)** to find a stormwater sales representative in your area. For project support, email eng.support@mattr.com.

For more information and digital tools for HydroChain stormwater products, visit [xerxes.com/xerxesconnect](https://www.xerxes.com/xerxesconnect).



HydroChain™ Prime Separator Properties

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
4FT	12.0	4.65	8.0	104	0.85
5FT	15.0	4.65	8.0	104	1.48
6FT	18.0	4.52	8.0	207	2.14
7FT	24.0	4.08	8.0	297	2.60

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

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™ stormwater product line — highly engineered products with site-specific designs for stormwater management solutions. Xerxes is a key brand of Matttr, a global materials technology company serving critical infrastructure markets.