

# Super-Flo™

## Optimized Stormwater Storage Process

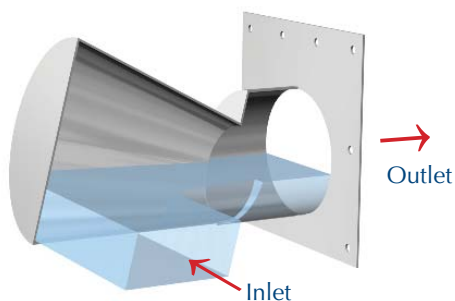
Optimize discharge to *minimize excess stormwater storage volumes*

### APPLICATIONS

- Subsurface stormwater storage systems
- Surface water storage ponds
- Infiltration systems
- Space constrained sites

### ADVANTAGES

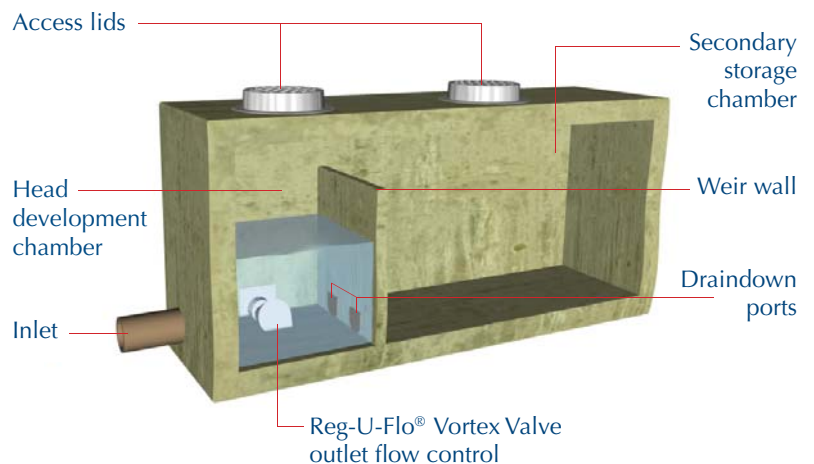
- Optimizes storage volumes
- Reduces project costs
- Designed and supplied as a concrete vault, pipe, arched chamber or modular block storage system
- Can be applied to nonstructural storage systems such as detention/retention ponds
- Reduces storage volumes by up to 30%
- Makes stormwater storage possible at small or irregularly shaped sites



The Reg-U-Flo® Vortex Valve Flow Control

The **Super-Flo Process** reduces project costs by minimizing unnecessary stormwater storage volumes.

The process combines the **Reg-U-Flo® Vortex Valve** with a storage system to optimize outflow of stored runoff significantly reducing storage requirements.



### The Reg-U-Flo Vortex Valve

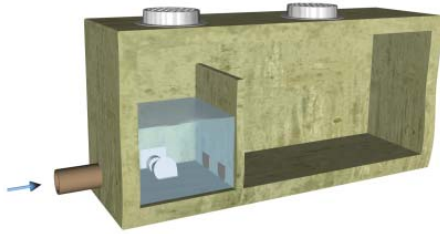
The **Super-Flo Process** is designed so that the maximum allowable discharge rate is attained at an early stage during the storm event, reducing overall detention requirements.

The key component of the **Super-Flo Process** is the **Reg-U-Flo Vortex Valve** flow control. Under base flow conditions, the **Reg-U-Flo** acts as a large orifice that passes water freely from inlet to outlet.

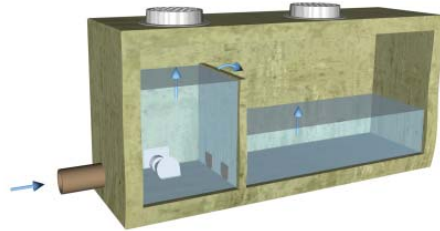
During a storm event, the head development chamber fills quickly to provide the optimum operating head for the **Reg-U-Flo Vortex Valve**. As storm flows build in the chamber, high peripheral velocities initiate the throttling action within the conical-shaped **Reg-U-Flo Vortex Valve**. As head increases, an air-filled core starts to form in the valve. Head continues to increase and the air core fully stabilizes within the valve. The air core restricts the outlet flow of the valve to prevent surpassing the maximum allowable discharge rate.

For more information on the **Reg-U-Flo Vortex Valve**, please inquire at [www.hydro-international.biz](http://www.hydro-international.biz).

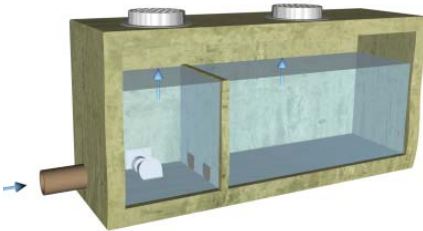
How It Works



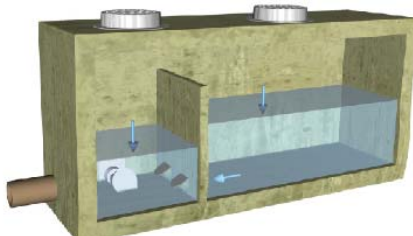
**Stage 1:** At the start of the storm, flow enters the head development chamber.



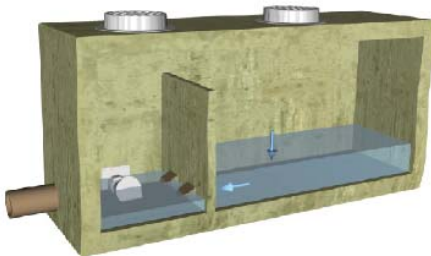
**Stage 2:** Water flows over the weir wall into the main body of the storage tank.



**Stage 3:** The Reg-U-Flo Vortex Valve maintains a constant discharge as the water level in the main body of the storage tank rises.



**Stage 4:** At the end of the storm, the water level in the head development chamber will fall first.



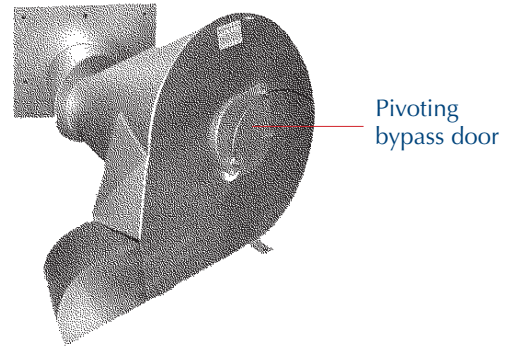
**Stage 5:** When water levels drop, the differential head across the weir wall is sufficient to allow the flap valves at the base of the weir wall to open allowing the tank to drain completely.

Maintenance

The **Super-Flo Process** reduces maintenance requirements through the use of the **Reg-U-Flo Vortex Valve**.

The **Reg-U-Flo Vortex Valve** has clear openings up to six times larger than a conventional orifice, reducing the risk of blockage. In the event of blockages the device is equipped with a pivoting bypass door (pictured below) for direct access to the outlet pipe.

Periodic maintenance is recommended to remove accumulated sediments and debris from the storage volume. To decrease the rate of pollutant accumulation within the storage volume, Hydro recommends installing a pretreatment device upstream of the **Super-Flo** storage system.



Sizing & Design

The **Super-Flo** is typically sized to comply with maximum allowable discharge rates.

The **Super-Flo** is supplied as a stormwater storage package with integral **Reg-U-Flo Vortex Valve**, head development chamber, storage volume and drain down ports.

The **Super-Flo Process** is supplied for most types of stormwater storage systems, including:

- Concrete vault
- Pipes
- Arched chambers
- Modular block systems

The **Super-Flo Process** can also be applied to detention/retention ponds to reduce the land take of the pond.

For more information please call our office toll free at 800-848-2706 or inquire at [www.hydro-international.biz](http://www.hydro-international.biz).

