



John Meunier OS-LP
Low Profile Overflow Screen
CSO, SSO, Stormwater Management

WATER TECHNOLOGIES

John Meunier OS-LP, Low Profile Overflow Screen

Application

Floatables control is one of the nine minimum controls of the 1994 US EPA CSO Control Policy, which offers guidance on how to effectively meet the pollution control goals of the Clean Water ACT.

The John Meunier OS-LP Low Profile Overflow Screen was specifically designed to remove floatables and debris during sewer overflow events, while maximizing in-line retention and the hydraulic capacity of the site.

Operation

As the water level in the collection system reaches the top of the overflow weir, a level detector activates the cleaning mechanism. As the water overflows, it passes over a profiled weir before reaching the horizontal arced bar screen. This profiled weir reduces the hydraulic jump and directs the outfall flow closer to the weir wall. As a result, the screening surface is optimized; allowing greater flows with reduced upstream water levels (Figure 1) and maximizing the hydraulic footprint.

Floatables and debris retained by the bar screen are directed by the rake arms and surface flow to a downstream trough. The hydraulic kinetic energy generated by the improved profile tends to push the screenings along the bars, instead of through the bars. This radically increases the removal efficiency of the OS-LP overflow screen. Once in the trough, the collected

screenings can be either sluiced back into the collection system downstream from the overflow chamber or collected in a detention tank for disposal at a later time.

At the end of the overflow event, the John Meunier OS-LP Low Profile Overflow Screen continues to operate for a set period of time to ensure the bar screen is clean for the next overflow event. The rake mechanism also operates periodically during dry time flow conditions to ensure mechanical readiness.

Should the maximum water level exceed the screen capacity, the bar screen design allows the excess flow to bypass to the chamber overflow structure without having to depend on any other emergency measures.

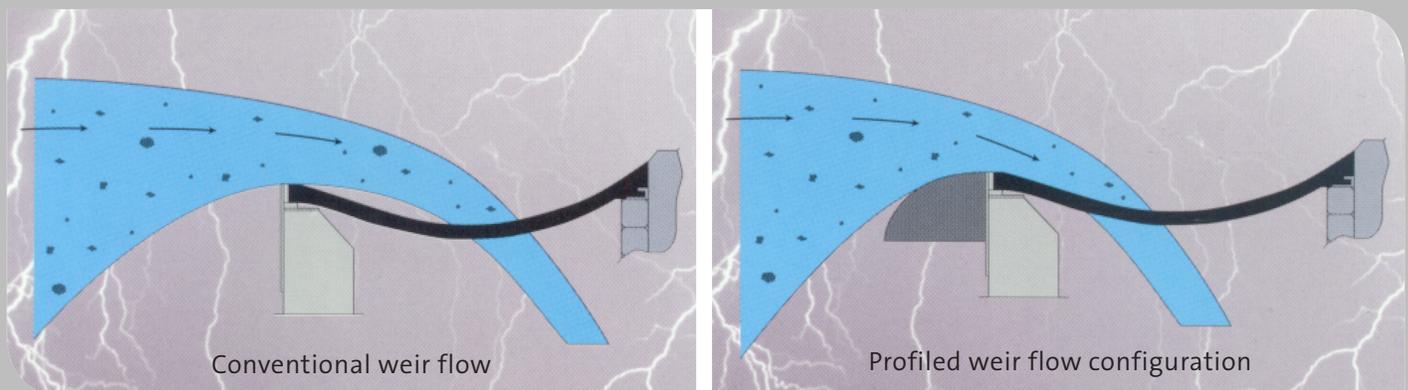


Figure 1: Effects of the profiled overflow weir

Features and Benefits

- Designed to US EPA standards
- Bar spacing as fine as ¼" (6mm)
- Optimized hydraulic design
- Minimal upstream headloss
- Maximum hydraulic footprint ratio
- Self-adjusting polymer combs mounted on a rotary rake arm
- Simple and robust stainless steel construction
- Electric or hydraulically driven motors
- Interchangeable, modular bar sections
- Downstream, self-cleaning collection trough

Selection

The John Meunier OS-LP Low Profile Overflow Screen is available in three standard sizes:

Model	Design Flow L/s/m [MGD/ft]	Design Head mm [in]	Rake Arm Radius mm [in]
A	290[2.02]	275 [11]	450 [18]
B	550[3.83]	400 [16]	600 [24]
C	1080[7.51]	600 [24]	900 [36]

To prevent downstream submergence, the outfall pipe capacity should be higher than the upstream pipe capacity. Easy access, in front and back of the screen structure, must be provided for maintenance.

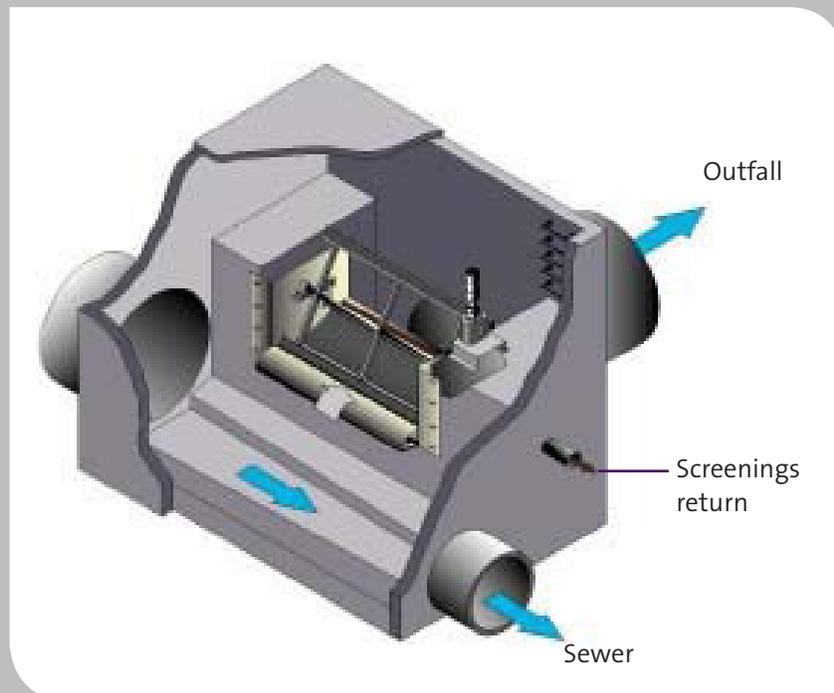


Figure 2: OS-LP Typical Installation

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