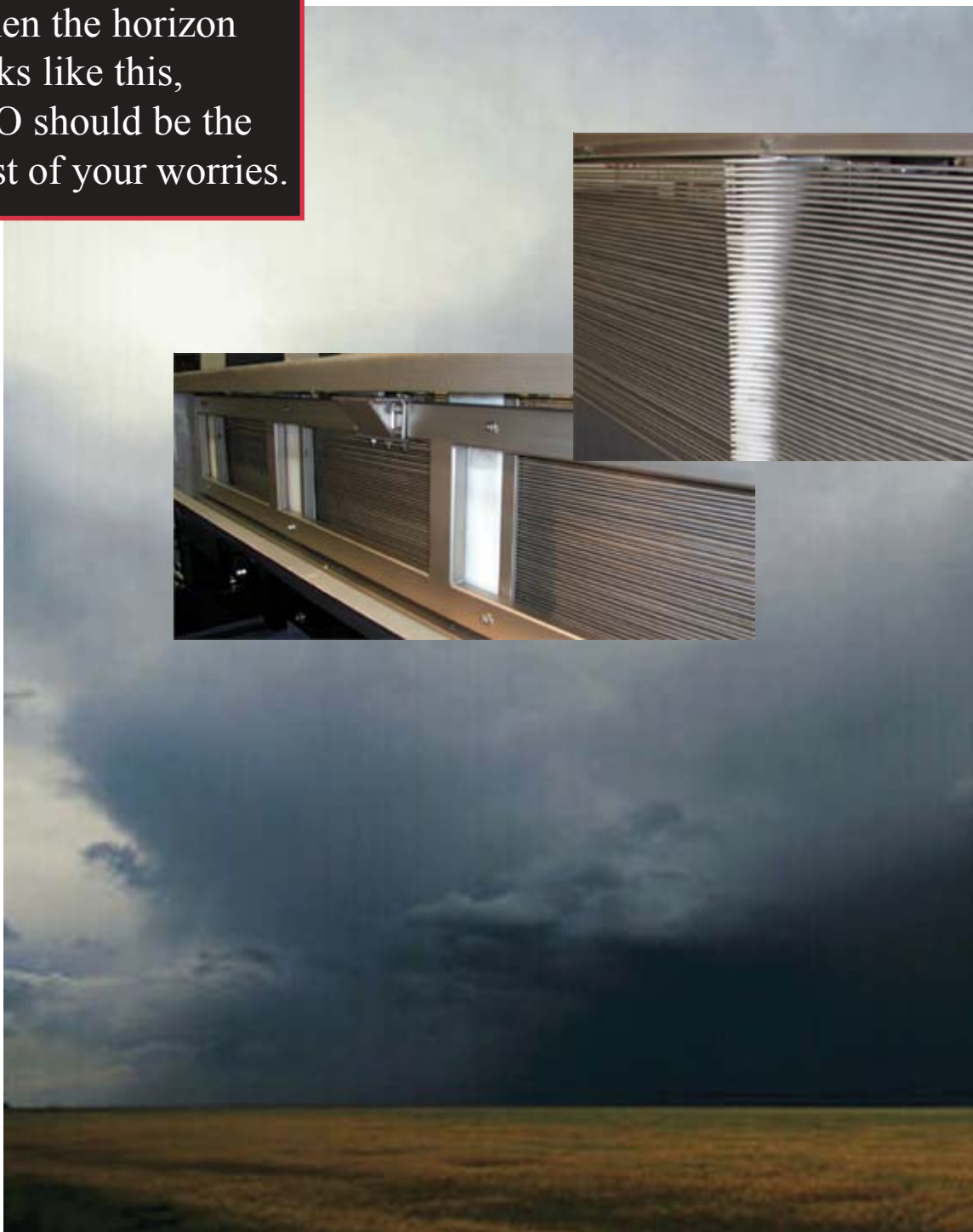


Lakeside/~~CUNIP~~ HY-TEC Screens

When the horizon
looks like this,
CSO should be the
least of your worries.



- Wastewater bypass screening
- Storm sewer overflow screening
- Combined sewer overflow screening

LAKESIDE/~~MUHR~~ HY-TEC Screen

The HY-TEC Screen, developed in Europe by the Muhr Corporation, is now available from Lakeside. This horizontal screen is specifically designed to handle excess flow from sanitary sewers, combined sewers or storm sewers.

Wastewater and stormwater overflow solids, such as hygienic items, plastic materials, kitchen waste and floatable material, are separated from the bypass flow stream and continue on to the treatment facility for ultimate removal. Completely automatic, the HY-TEC Screen operates only as needed during excess flow conditions.

Screen Operation

The HY-TEC Screen uses cleaning combs with uniquely shaped teeth to clean the horizontal bar rack. The combs are mounted on a hydraulically driven frame that moves back and forth during a cleaning cycle initiated at a preselected liquid level or head differential. In the forward cycle, the sloping part of the teeth fully clears the screenings from the bar rack openings. The perpendicular component of the teeth progressively pushes the screenings downstream along the length of the screen. When the cleaning comb frame reaches the end of the screen, a hydraulic pressure switch is activated signaling the frame to reverse direction. As the combs move back upstream, the back side of the teeth pushes screenings from the bar rack into flowing water.



Front view - treatment flow side

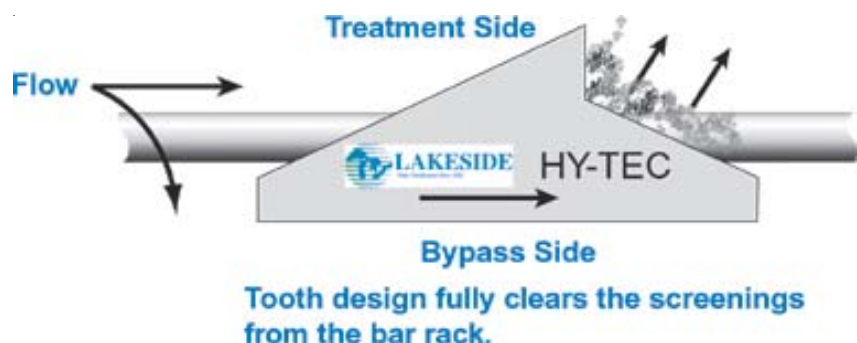


Bypass side showing overflow weir

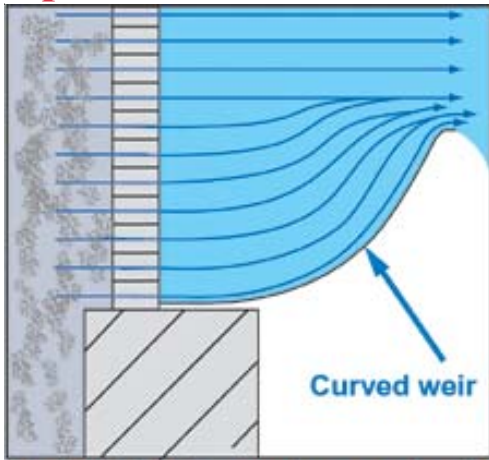
Superior Tooth Shape

Compared to other horizontal screens, the HY-TEC Screen provides superior cleaning through the use of specially shaped teeth. The teeth, fabricated of durable, ultrahigh molecular weight polyethylene (UHMW) plates, are specifically designed to fully clear screenings in both directions of travel.

The unique HY-TEC Screen teeth pushes screenings up and out of bar rack spaces. Teeth on other horizontal screens do not completely clear screenings from the bar rack. This results in a gradual buildup of compressed screenings at the end of the rack. Eventually, the open rack surface clogs; the shifting movement of the cleaning combs becomes restricted; and the throughput of the screen rapidly drops.

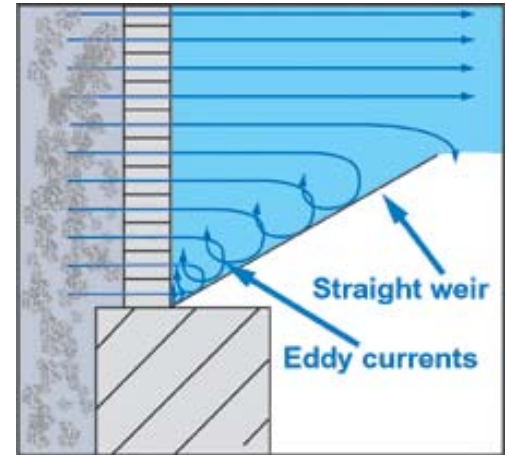


Optimized Overflow Weir



The HY-TEC Screen's curved weir provides a smooth transition that maximizes flow through the screen.

Conventional overflow weirs are straight and mounted at a 30- to 60-degree angle. This type of weir creates eddy currents between the bar rack and the weir. The currents reduce hydraulic capacity due to increased headloss and cause fine solids to settle at the invert of the weir. Over time, deposit buildup may cause odors or jam the screen.



Conventional straight weir design creates eddy currents that reduce hydraulic capacity.

Positive Removal of Screenings

The ends of the HY-TEC Screen are tapered to ensure positive removal of the screenings. The tapered ends optimize screenings removal and prevent compression of screenings between the end section and the cleaning comb.



Screen Activation

A level-sensing device, such as a float switch or ultrasonic level sensor, initiates the cleaning cycle of the HY-TEC Screen when the water elevation reaches a predetermined level. An optional second level sensor can be installed to measure head differential across the screen. These level sensors keep screen operating time to a minimum.

Optional Pivoting Weir

An optional pivoting weir can be integrated into the HY-TEC Screen. The advantage of this design is that storm water does not overflow the weir crest until the maximum upstream water level is reached. When this occurs, the weir automatically swings downward to set the weir crest at the proper operating elevation. This allows full use of sewer system capacity before bypass conditions occur. This feature should be used in applications that have gravity flow systems to the wastewater treatment plant.

Optional Pivoting Screen Design

The HY-TEC Screen can be designed so the entire mechanism pivots upward. This option is recommended when the overflow structure has insufficient area above the screen to accommodate excess flow. If the screen does not operate when required, it can be raised to allow flow to enter the bypass channel.

Advantages of the HY-TEC Screen

- **All stainless steel design** for superior corrosion resistance.
- **Hydraulic capacity** up to 120 mgd for a single unit.
- **Screens** material using a simple horizontal bar rack with spacing from 4 mm (3/32-inch) to 20 mm (3/4-inch).
- **Non-clogging tooth design** using a unique series of ultrahigh molecular weight polyethylene (UHMW) plates that clean the horizontal bar rack from the back side.



- **High removal efficiency** throughout the design flow range.
- **Automatically activated self-cleaning** that is ideal for remote locations.
- **Reduced maintenance** since there are no submerged bearings or parts that require maintenance.
- **Simple mechanical device** that is hydraulically driven to conserve energy.

Treatment equipment and systems solutions from Lakeside

Lakeside offers a wide range of equipment and systems for virtually all stages of wastewater treatment from influent through final discharge. Each process and piece of equipment we supply is manufactured with one goal in mind . . . to reliably improve the quality of our water resources in the most cost-effective way possible. We've been doing just that since 1928.

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E.A. Aerotor
Magna Rotors
Rotor Covers
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Tertiary Treatment using
Series Clarification
Full Surface Skimming

Trickling Filters

Grit Collection

SpiraGrit
Aeroductor
RAPTOR Grit Washer
In-Line Grit Collector
Model L Grit Classifier

Screw Pumps

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