

CATENARY BAR SCREEN



*Providing Enhanced Protection
For Your Process Equipment*



Benefits of E & I Corporation Catenary Bar Screens:

Our Catenary Bar Screen is a heavy duty, durable, easily maintained, long lasting, and essentially indestructible screen for typical municipal headworks, CSO or industrial applications. These screens provide:

- Rugged yet mechanically simple construction for **longer equipment operating life**
- Standardized, heavy-duty components and design uniformity for **economical high quality and reliability**
- Jam-proof, stall-proof, and self-relieving for **less downtime**
- Simple design resulting in **minimal maintenance**
- No fixed underwater components, allowing **all maintenance to be performed from the operating floor**



Custom Design, Standardized Components:

The Catenary Bar Screen is custom designed to meet the requirements of each individual application while utilizing our standardized, heavy duty components. This customization assures that the screen will meet the rigorous requirements of each application. The standardization of components contributes significantly to E & I Corporation's ability to provide the highest degree of quality and reliability while maintaining the lowest equipment costs in the industry.

Equipment can be specifically tailored to customers' needs. Following are some of the items that can be customized in E & I Corporation's Catenary Bar Screens:

- **Construction materials** - type 304 stainless steel, type 316 stainless steel or painted carbon steel
- **Drive arrangement** - shaft mounted or chain drive
- **Method for screenings collection** - washer/compactor, belt or screw conveyor, dumpster or roll-off
- **Bar rack open spacing** - 1/4" to greater than 3"
- **Bar Rack size and design** - can be varied based on capacity, debris size and channel size
- **Channel fit** - can be adjusted for width and depth using no fillers or spacers; used in channels ranging from 1.5 feet wide to over 18 feet wide
- **Covers** - 304 stainless steel, 316 stainless steel, fiberglass or can be provided with no covers

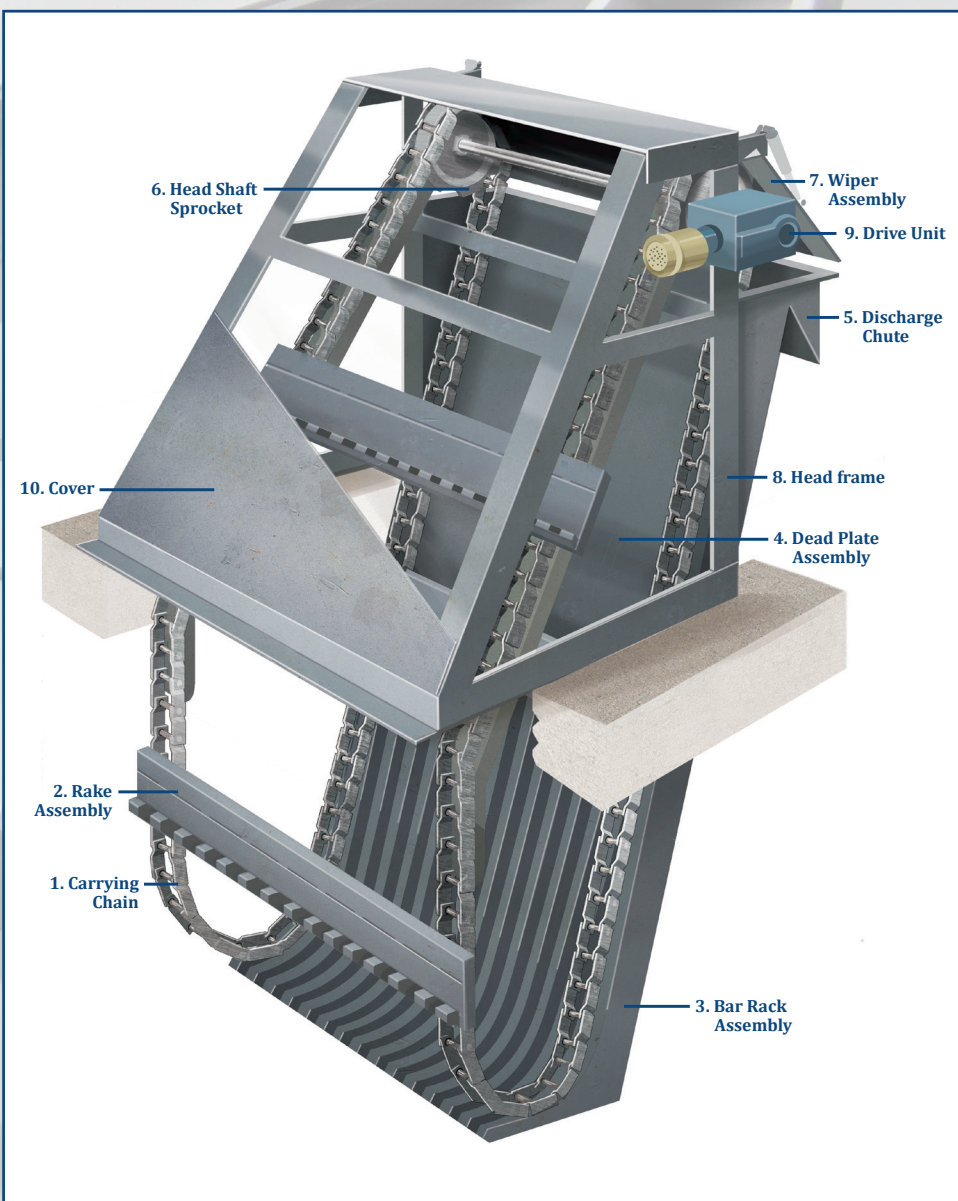
How it works:

"Catenary" refers to the curve assumed by a heavy, uniform chain that hangs freely from two fixed points. The "catenary" principle is applied to the rake path, allowing the dead weight of the hanging loop to clean the face of the bar rack under design loading conditions. The heavy constant loop chain acts as its own frame and lower sprocket, so these elements are eliminated. Because there are no lower sprockets, if an obstruction becomes impinged on the bar rack the chain and rakes will ride out over the obstruction and return to the bar rack providing continuous jam-proof operation.



Key Features:

1. Carrying Chains
 - Heavy duty, welded steel, 6" pitch
2. Rake Assemblies
 - All steel, 7" C-channel with rake plate and 2" x 3" solid steel counterweight
 - Typically spaced seven feet apart
 - Operate at a nominal speed of 10 FPM
 - Able to ride-out over obstructions
3. Bar Rack Assembly
 - 3/8" x 3/16" x 2-1/2" trapezoidal bars, 316 stainless steel
 - Welded assembly for stable, long life
 - Bars have rounded edges for enhanced hydraulic capacity
4. Dead Plate Assembly
 - Flat and true surface for consistent rake clearance
5. Discharge Chute
 - Side flanges to contain screenings
6. Headshaft Sprockets
 - Keyed to the headshaft
 - No lower sprockets
7. Wiper Assembly
 - Adjustable, replaceable debris blade
8. Headframe
 - Heavy structural design
 - Anchors at operations floor level
9. Drive Unit
 - Shaft mounted gear reducer with motor
10. Covers
 - Heavy gauge stainless steel
 - Inspection doors for ease of maintenance



Background:

The Catenary Bar Screen was originally developed in the 1950s for the New Orleans Drainage District and was later adopted by the Galveston Corps of Engineers for their storm water pumping stations in SE Texas. Storm sewers in these areas were mostly below sea level and storm flows had to be pumped to keep from flooding the surrounding communities. The pump stations were designed to operate under emergency conditions, since any serious pump failure could have led to a disaster. Catenary Bar Screens were developed to be more dependable than rope or cable operated reciprocating rakes that were typically used at the time to clean the intake fore bays of storm water pumping stations. The simplicity, ruggedness and low maintenance requirements of the Catenary Screens made them ideal for use in emergency storm water situations, as well as a variety of other applications.

The Catenary Bar Screen is most often used in wastewater treatment plants for influent screening. Because of its trouble-free operation and minimal maintenance, it has also been used in a variety of industrial applications as well, and is ideal for any industry with large water usage and varied debris removal requirements.

Typical Applications:

Municipal wastewater treatment plants
Municipal CSO applications
Pulp and paper mills
Power plants

Textile mills
Steel mills
Refineries

Support Services:

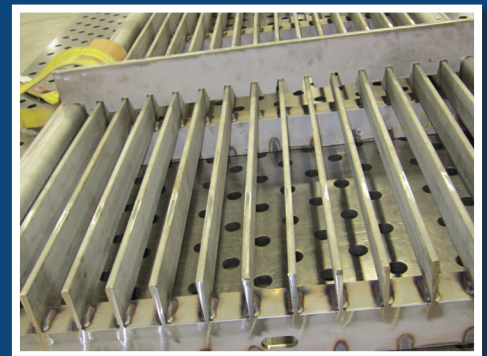
Preliminary Design Support
Drawings
Specifications
Startup Services

After Market Support
Troubleshooting
Equipment Replacement
Parts

Available Models:

CBS-SM (shaft mount drive)
CBS-SM-AE (auto entry)
CBS-CD (chain drive)

CBS-CD-AE (auto entry)
CCBS II-CD ("Compact II", compact version of CBS-SM)



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