



Grab Style Trash Rake

GRAB STYLE TRASH RAKE

Grab Style Trash Rakes from Evoqua are able to completely and efficiently remove all types of debris from raw water intakes. Applications for their use include cleaning bar racks at cooling water intake structures, municipal water intake structures and small low-head hydro power stations. The Grab Style Trash Rake assures the positive removal of rough or heavy trash and debris from stationary bar racks. Easy and reliable operation is controlled with the use of an interactive touch screen that controls all operations of the Grab Rake. Debris collected by the bar racks is effectively scraped clean from bars as the rake descends to the bottom, leaving no margin for debris to escape. With the extensive expertise in control systems at Evoqua, including simple relay logic to PLC's, SCADA and remote diagnostics, you can be assured that your system will perform efficiently and cost-effectively. The Grab Style Trash Rake is manufactured in the USA at a Evoqua ISO 9001:2008 certified facility. Standard heavy duty capacity is now 1,500 lbs (681 kg).

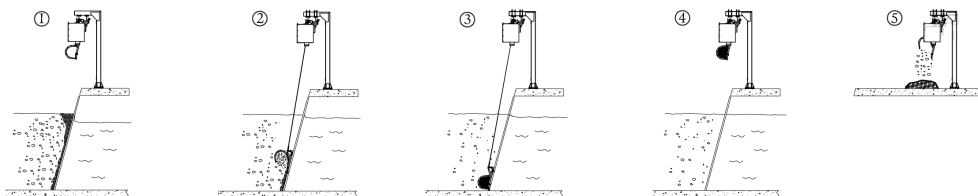
HOW IT WORKS

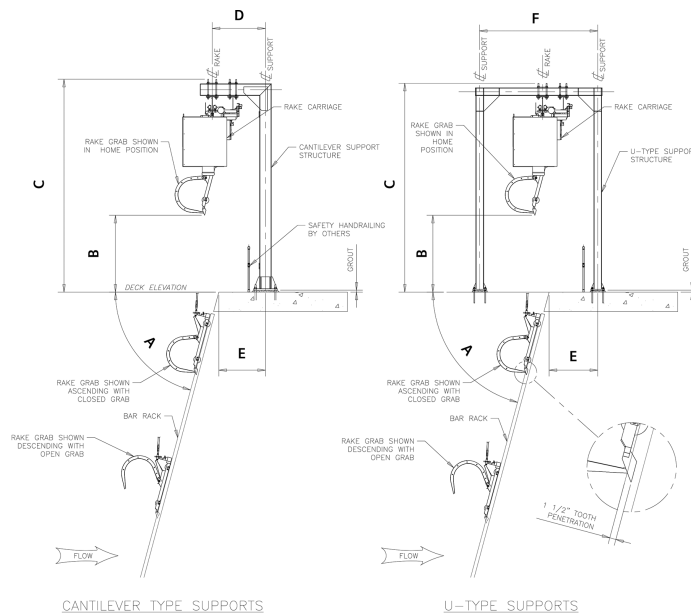
The Grab Style Trash Rake is designed to easily engage the bar rack to collect debris as it descends down the face of the rack. Debris is then removed during the rake's ascending run and placed into deck-level receptacles. It is considered the first line of defense in efficiently removing large debris, ensuring that downstream screens, pumps and other

equipment are protected, thus providing uninterrupted clean water flow to your plant. Designed for harsh applications, the Grab Style Trash Rake is easily adaptable to both new and existing intake structures, often with little to no civil modifications required.

BASIC OPERATION

- 1. Initiation** - Cleaning cycle initiated by either operator (via remote or HMI control screen) or automatic mode (timer or differential sensors).
- 2. Collection** - Upon reaching the selected cleaning station, the grab automatically opens and descends along the bar rack in the open position, with the teeth penetrating the bars. Debris is trapped in the grab bucket as it descends. The grab automatically stops when it reaches the channel invert.
- 3. Retention** - Upon reaching the channel invert, the grab bucket closes, capturing the collected debris. The grab then ascends to the carriage home position.
- 4. Transportation** - Once the grab is docked in the carriage home position, it will traverse to the designated dump location.
- 5. Discharge** - At the dump location, the carriage stops and the grab bucket opens, discharging the collected debris.





SPECIFICATIONS

Feature	Heavy Duty Rake	Standard Duty Rake	Configured Option
Dimensions			
Grab Rake Angle [A]	75°	75°	70° - 80°
Overhead Clearance [B]	6'6" (1.98 M)	6'6" (1.98 M)	
Total Height [C]	18'0" (5.49 M)	16'8" (5.08 M)	
Cantilever Support Depth [D]	4'6" (1.37 M)	4'6" (1.37 M)	
Support Location [E]	4'0" (1.22 M)	4'0" (1.22 M)	
U-Type Support Depth [F]	10'0" (3.05 M)	10'0" (3.05 M)	Custom design
Material			
Support Structure	Epoxy painted carbon steel	Epoxy painted carbon steel	Galvanized
Rake Carriage	Epoxy painted carbon steel	Epoxy painted carbon steel	Galvanized, 304 or 316 Stainless steel
Rake Grab and Teeth	Galvanized	Galvanized	304 or 316 Stainless steel
Cables and Fasteners	304 Stainless steel	304 Stainless steel	316 Stainless steel
Bar Screen	Epoxy painted carbon steel	Epoxy painted carbon steel	Galvanized, 304 or 316 Stainless steel
General Features			
Cleaning Width	9'4" (2.85 M)	4'8" (1.42 M)	
Grab Opening	3'0" (0.92 M)	1'8" (0.51 M)	
Lift Capacity Weight and Volume	1,500 lbs, 45 ft ³ (681 kg, 1.27 M/3)	600 lbs, 7'6" ft ³ (272 kg, 0.21 M/3)	
Traversing and Hoist Speed	100 ft/min, 60 ft/min (0.49 M/s, 0.31 M/s)	100 ft/min, 60 ft/min (0.49 M/s, 0.31 M/s)	
Motor Enclosures	TEFC - Severe duty	TEFC - Severe duty	
Controls Enclosures	NEMA 4	NEMA 4	NEMA 12, 4X
Channel Depth	60 ft max (18.3 M max)	60 ft max (18.3 M max)	Consult Evoqua
Bar Screen Clear Opening	2" (50.8 mm)	2" (50.8 mm)	1" - 4" (25.4 mm - 101.6 mm)
Curved Track Radius	11'6" min (3.5 M)	11'6" min (3.5 M)	



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