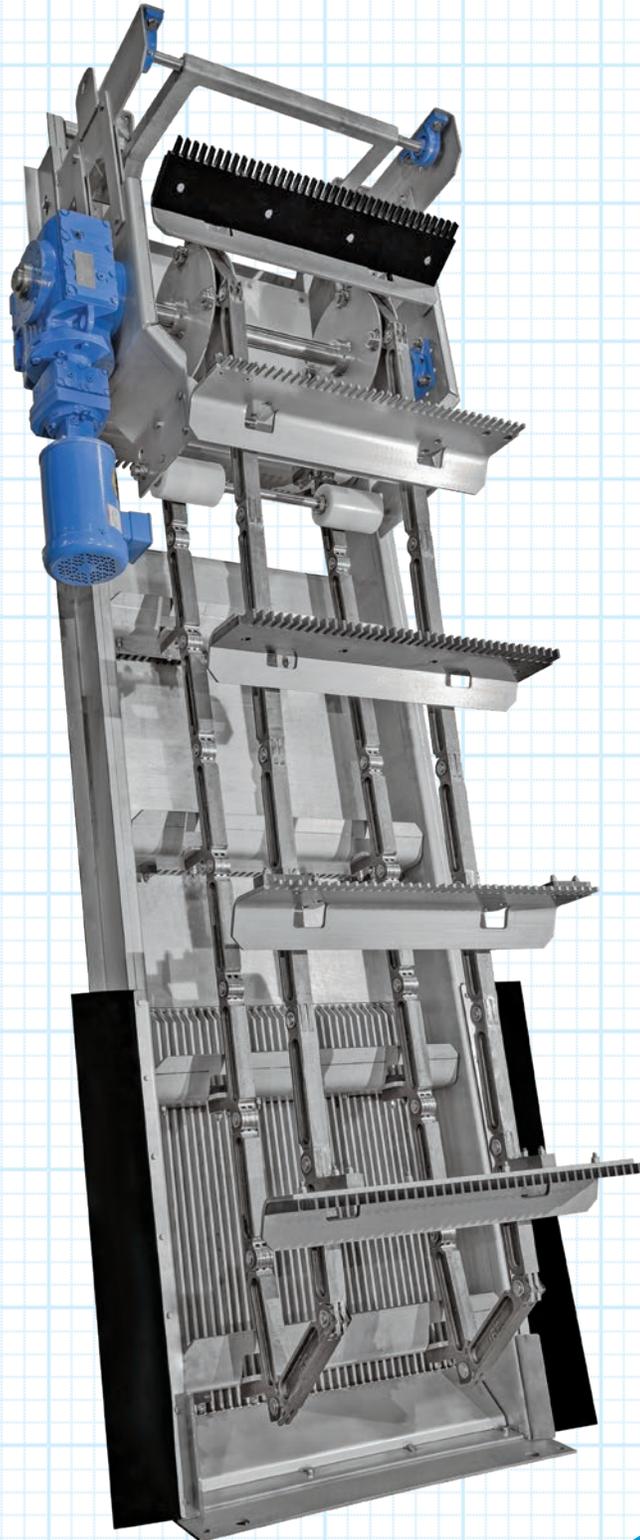
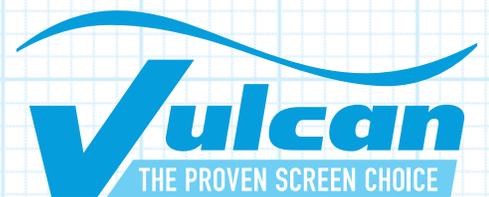


# Model VKR Knuckle Rake Bar Screen

Product Information Guide



Find more product information at:  
[vulcanindustries.com](http://vulcanindustries.com)





# Model VKR Knuckle-Rake Bar Screen

## Drive Pivots

Allows discharge of large debris.

## Drive Options

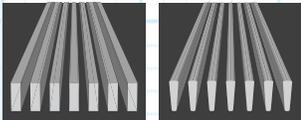
0.5 HP TEFC and explosion-proof motors provided with variable frequency drive (VFD) which allows for dual speed operation to ensure a clean bar rack in peak flow conditions.

## Stainless Steel Side Frame

Side frames are 1/4" thick 304 or 316 stainless steel.

## Choice of Rectangular or Trapezoidal Bar Rack

Bar spacing from 1/4" to 3"+



## Wiper Mechanism

Internal to screen frame with no brushes or water required.

## Upper Stainless Steel Drive Sprockets

## Stainless Steel and UHMW Rake Heads

Spaced at 21" apart, the rake heads alternate to avoid dead plate damage, yet each has teeth to continue cleaning the bar rack. A rake head with no teeth is a rake head without a purpose.

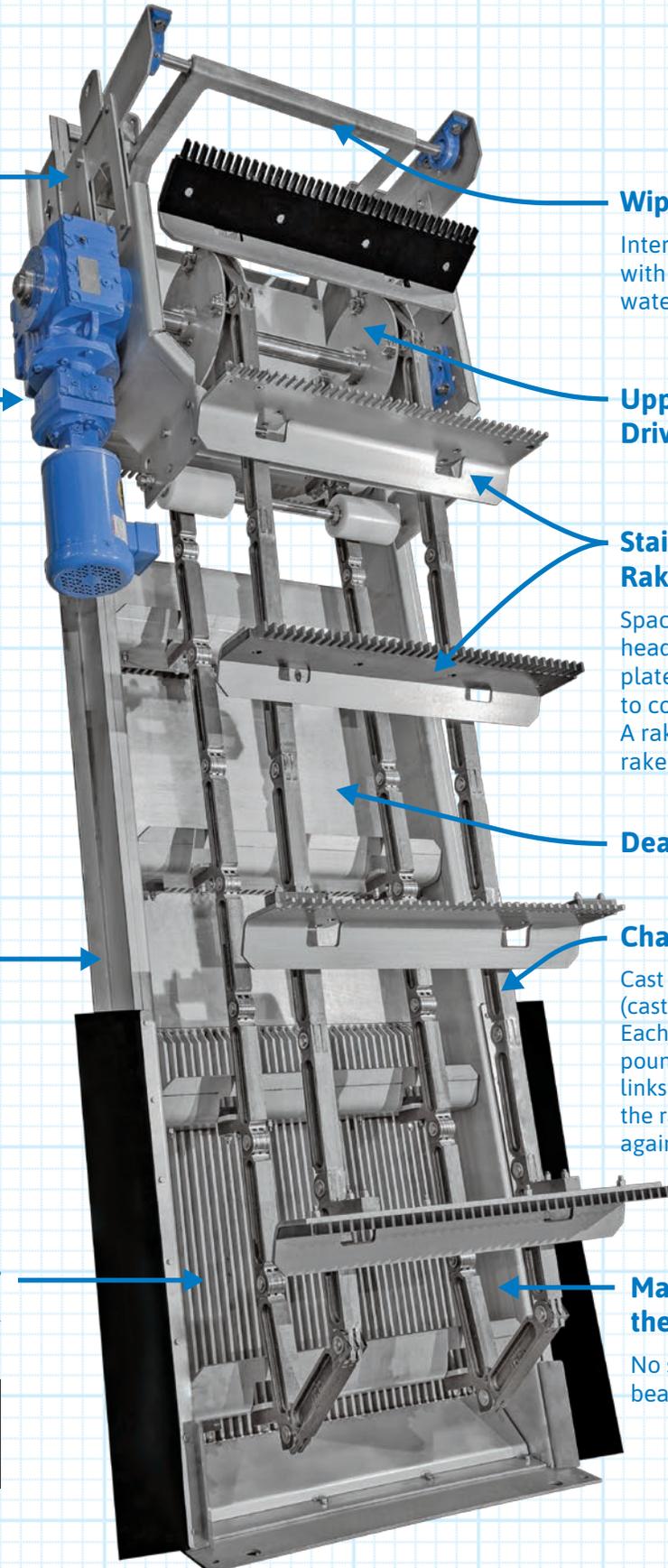
## Dead Plate

## Chain Links

Cast CF8M stainless steel (cast equivalent of 316 SS) links. Each link weighs a minimum of 6 pounds making them the heaviest links on the market by 33%, giving the rake heads an increased force against the bar rack.

## Maintenance Free Below the Water Level

No submerged sprockets, bearings, or maintenance items.



## Engineered for Capacity, Known for Reliability

With over 1,500 mechanical bar screens, over 150 of which are multiple rake screens, and over 2,500 pieces of equipment in operation in headworks across the world, Vulcan has perfected the mechanical bar screen. This unmatched experience has been applied to the **Model VKR Knuckle-Rake Bar Screen** to provide a budget and maintenance friendly screen intended for many years of care-free service. The VKR Screen is an automatic, self-cleaning mechanical bar screen customized for existing and new construction with bar openings 1/4-inch and larger. Vulcan's in-house electrical and integrations staff provide customized controls packages ranging from the most simple to sophisticated operation.

## Low Cost, Not Low Quality

While it sounds impossible, that is not the case with the VKR. The materials of construction match all of Vulcan's other bar screens with 304 or 316 stainless steel allowing the frame to withstand the wastewater environment. The structural members of the machine have gone through the same scrutiny as all of our other screens, many with 30+ years of service. The drive system uses the links to lock onto pins that are precisely machined for each unit.

Combinations of stainless steel, nylon and UHMW polyesters make up the major components of the frame, structural members, drive system, rake heads / rake teeth and wiper system. The knuckle links are cast from CF8M stainless steel with the corrosion resistance comparable to 316 stainless steel.

Power requirements are low. Typically 0.5 HP motors are used to drive the Model VKR Knuckle-Rake Bar Screen. A variable speed drive allows for low and high speed operation as well as machine protection.

Control of the VKR can be customized as necessary for each project. With Vulcan's in house integrations and electrical design staff, the VKR can be started and stopped with simple floats or ultrasonic transducers. The higher speed operation of the machine can be triggered by a high channel level, plant SCADA signal, or any other driver that exists at the plant. With Vulcan's in house control expertise the possibilities are limitless.

## Vulcan Innovations The Success is in the Links

So what's different? The Model VKR Knuckle-Rake Bar Screen uses a unique knuckle chain link that only bends in one direction. This allows engagement of the rake teeth into the bar rack by the knuckle link design forming its own lower turn-around without a sprocket or guide rail system in the flow. The knuckle link design allows the rake heads to disengage from the bar rack should a large object be encountered or an object is lodged in the bar rack. However, to ensure an adequate force still exists to dislodge material in the bar rack, Vulcan placed a high level of importance on the link design. For this reason, Vulcan casts the links to weigh 6 pounds; an improvement of 33 percent over the competition. This is extremely important for a screen that relies on the weight of the links and rake heads to maintain rake head engagement into the bar rack. We want the rake heads to disengage to remove large material, but we also want to ensure tooth penetration doesn't suffer when blinding occurs. Each rake head is provided with rake teeth so that every rake head engagement cleans the three sides of the bar rack bars exposed to the screenings. No flat head "staging" scraper used (or needed).

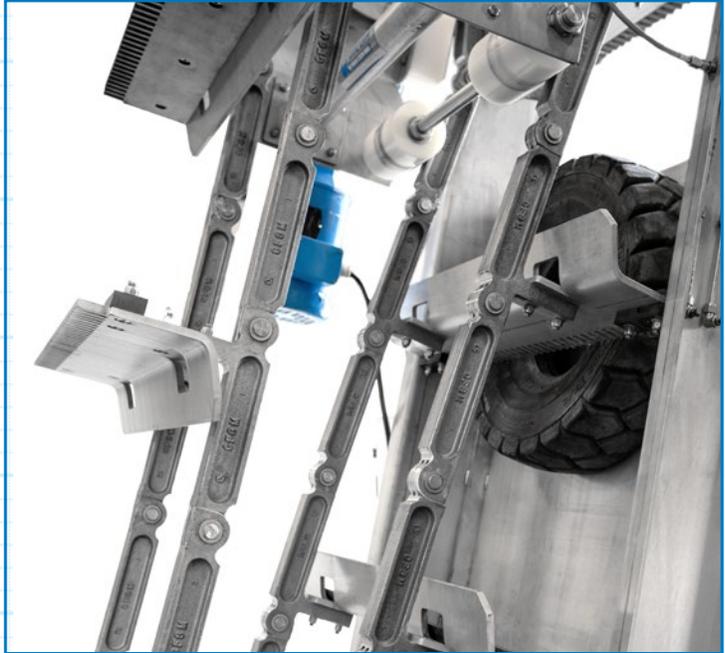
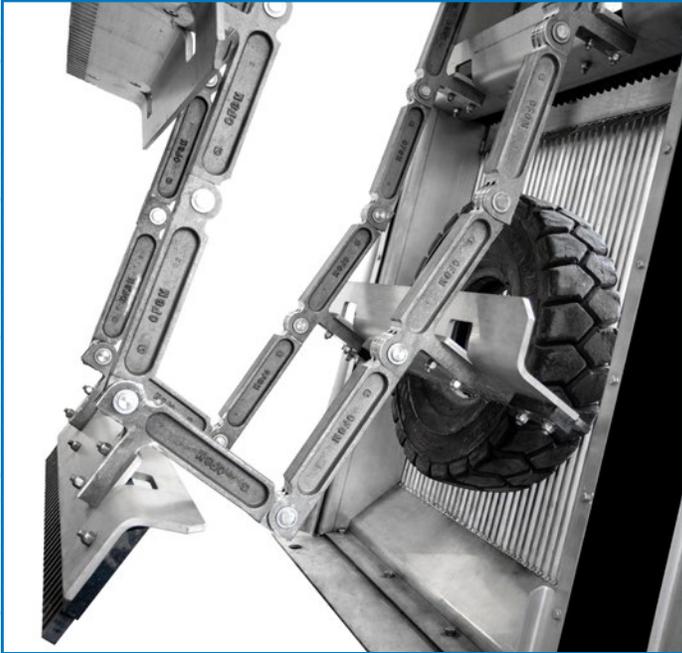
Rake head shapes control where the screenings end up. VKR rake heads are formed with a scoop shovel shape to contain the screenings collected from the bar rack. That way, screenings are kept on the rake head until the rake wiper removes them automatically. This reduces the amount of screenings falling back into the flow or onto the operating floor.

## Post-Screening

The Vulcan Model VKR Knuckle-Rake Bar Screen could be the best choice for your application. And, we have multiple options for handling the screenings collected by the VKR. Sluice trough conveyance systems, shaftless screw conveyors, belt conveyors, screw presses and washing presses are available to make your life easier and cleaner. Of course, we can integrate all of the equipment controls into one control panel for any of our screens and screening handling systems. So why chose Vulcan? WE ARE THE PROVEN SCREEN CHOICE!



# Model VKR Knuckle-Rake Bar Screen



## ▲ Along for the Ride

When a large object is picked up by a rake head, the heavy links of the VKR press the head into the object to carry it along until it reaches the top of the dead plate where it is ejected from the screen.



## ▲ VKRs With Covers

Vulcan's VKR screens are typically provided with covers for odor control and safety.

## ◀ VKR Links

The heavier the link, the higher the probability for a clean bar rack. Vulcan's 6 pound links provide more force against the bar rack to ensure teeth penetration and debris removal.

Find more product information at:  
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