

Multi Rake Screen KHU-Boomerang XL

Improved design for screening at peak hydraulic thresholds

KUHN - Multi Rake Screen KHU-B XL

Is the latest generation KHU Multi Rake Screen, improving on the standard configuration, and designed to suit a large range of applications.

The focus of the new development was to achieve the maximum flow rate with minimal headloss, whilst ensuring optimum and steady removal of captured screenings.

The new KHU-B XL Multi Rake Bar screen pushes screening to the limit, and beyond!

Application

The **KUHN**-Multi Rake Screen KHU-B XL has been designed to retrofit easily into existing channels and is particularly suited to applications experiencing hydraulic characteristics that are less than ideal. The design has the capability of handling large quantities of screenings making it extremely suitable for treatment plants that are subject to sudden or extreme loads. High grit loads do not affect the operation of the machine and even the largest stones and rocks can be lifted and cleared from the channel.

Assembling and operating mode

The key difference when comparing the **KUHN** KHU-Boomerang XL to the KHU standard version is the new and unique frame construction. In the standard version, the side frames extend into the channel, which has been avoided in the new XL-construction, enabling the screen area to extend to the channel walls whilst utilising the full width of the channel.

In the "boomerang" design the bars do not end straight at the ground as with the standard version, but are curved into a semi-circular profile. In this design the wastewater can flow through the screen without unnecessary restriction, again maximising the available screening area.

With the novel boomerang design screenings can be removed from the very bottom of the channel. Accumulations in front of the screen that arise through constriction in the flow and dead zones can be avoided. Stones, boulders, branches, bags and all other debris captured is readily lifted and cleared from the screen.

Head losses are further reduced by utilising profiled bars that have been optimized for the highest of flows. The "fish belly profile" achieves these standards whilst providing an extremely strong and rigid structure, similar to the low blockage wedge wire filter used in the proven KWP-Series Wash Press.

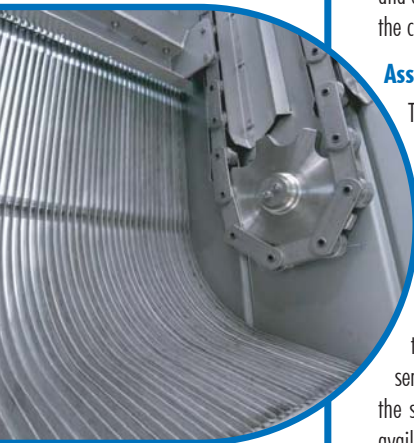
Through the use of the specially designed screening combs coupled with the profiled screening bars, a novel screening mesh with brilliant self-cleaning characteristics has been developed.

Due to the technical enhancements of the **KUHN**-Multi Rake Screen KHU-Boomerang XL, a screen with about 30 % higher throughput in similar size construction is available.

Design (Technical features)

The unique features of the KHU-B XL can be summarised as follows:

- Suitable for very large hydraulic heads and channel widths
- Designed for the largest possible wastewater capacities
- Optimized flow with approximately 30 % higher throughput
- Total removal of screenings from the channel bottom, thanks to the Boomerang design
- Not affected by stones or gravel
- Space saving installation thanks to an almost upright position of 80°
- There are no side frame losses through a system frame that has been kept open
- Very low blockage thanks to selected forced engagement of the rake combs into the screen grate
- Utilises wedge wire bar profile to reduce blockage of the screen grate
- Highest cleaning speed available, expandable through additional clearing bars
- Drive chain in hardened high-grade steel (no steel or plastic tracks)
- Easily interchangeable segmented rake comb boards in hardened materials
- Solid system frames with well thought out maintenance openings
- Fully automated cleaning operation:
 - no brushes
 - no spray wash systems
- Temporary backward running for self-cleaning of the screen grate possible
- Available in separable construction for difficult installation conditions
- Electro-magnetic overload protection
- Optional inspection glass



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Scraper, fully-automatic
Optimum cleaning of the rakes and transfer to the discharge hopper

Hygienic covers, removable
Guarantee complete odour and hygienic encapsulation

Inspection glass (optional)

Heavy-duty driving chains
In stainless steel (optional steel or plastic)

Screen grid, selectable bar-spacing
Freely-selectable gap width for every application case

Eco bearing mount
Continuous lubrication, reliable and maintenance-free.

Boomerang-bottom flume
total removal of screenings from the channel bottom, thanks to the Boomerang design

Large-volume discharge hopper
Simple and safe transfer of screenings

Drive with overload protection
Optimum design for every application case

Service hatches

System frame, stainless steel

- Solid system frames
- System frames separable for difficult applications
- No side frame losses through a system frame that has been kept open

Rod profiles, optimised flow characteristics
Utilises wedge wire bar profile to reduce blockage

Rake, segmented, rake comb boards in hardened materials
Very low blockage thanks to selected forced engagement of the rake combs into screen grate

Dimensions

Flume width	up to max. 4 m
Flume depth	up to max. 15 m
Gap width	5 – 25 mm

Standard materials

Machine frame, covers	AISI 304 stainless steel
Rod profiles	AISI 304 stainless steel
Chain	Stainless steel
Other materials on request.	

Drive

Index of protection	IP 55 (explosion protection possible)
Motor	Bevel gear motor