

# JOHNSON SCREENS® Multi Rake Bar Screen DEFENDER

## TASK

The separation of solids from solids/liquid mixtures by means of a bar rack cleaned by multiple rakes within municipal or industrial wastewater treatment processes.

## SOLUTION

The JOHNSON SCREENS® Multi Rake Bar Screen DEFENDER has been successfully tried and tested in the process technologies of wastewater treatment plants. The application of state-of-the-art laser cutting and 3D folding technology is the key to its production-optimised lightweight construction.

## FUNCTION

The screen panel exposed to the wastewater flow consists of parallel bars and is directly bolted to the channel. The solids being present in the wastewater are captured on the surface of this barrack when effluent is passing through. Removal of the solids is effected by rakes with teeth laterally mounted to revolving roller chains which run in chain guide assemblies and transport the screenings to the discharge chute. Due to its frameless design the JOHNSON SCREENS® Multi Rake Bar Screen DEFENDER has very good hydraulic properties. A reverse chain mode simplifies maintenance and clogging monitoring.

## PRODUCT VARIANTS

Depending on the gap width, the bar rack can be completed as follows:

- From 6 mm till 12 mm bar space = bar profile 6 x 40 mm
- From 15 mm till 80 mm bar space = bar profile 10 x 40 mm

## DESIGN SIZES

- Channel width: 400–2,000 mm
- Channel depth: 400–10,000 mm
- Discharge height: customisable
- Gap width: 6–80 mm
- Installation angle: 75°–90°

## BENEFITS

- Gap widths possible up to min. 6 mm
- Low maintenance, low wear and tear due to:
  - maintenance-free stainless steel roller chain
  - no bearing below the waterline
  - cleaning without brush
- Bottom guides in S.S. material:
  - no bearing in contact with the effluent
- Lateral guides in HDPE high density:
  - chain always in axe with the frame
  - cleaning rakes always aligned on the axe of chain
- Removable panel bars:
  - each single bar can be removed separately
- Removable cleaning rakes:
  - each cleaning rake is bolted to the chain and can be removed for maintenance



**BILFINGER**

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## MATERIALS

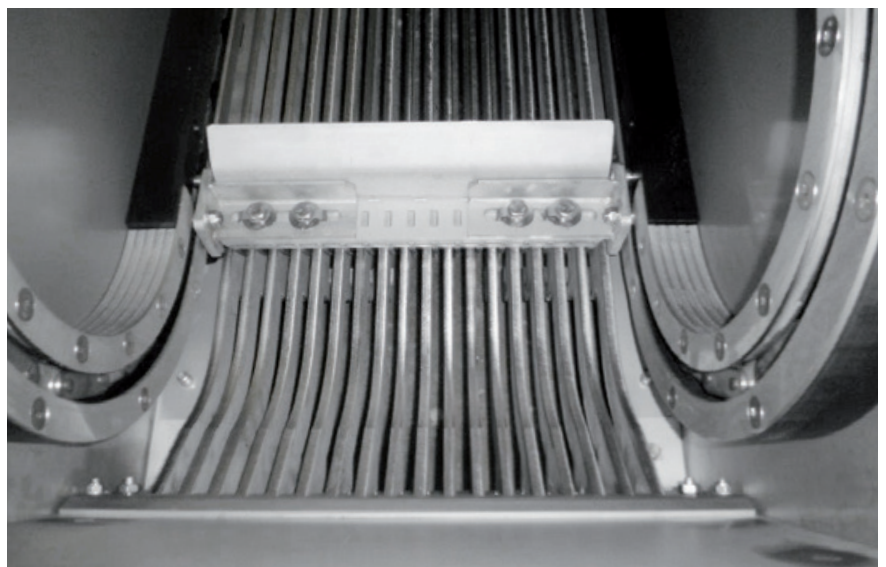
Frame, bottom chain guide, scraper frame,	
discharge chute, bar rack:	AISI 304L or AISI 316L
Chain, roller and links:	AISI 304L or AISI 316L
Scraper wiper and lateral guides:	HDPE
Sprockets:	AISI 304L or AISI 316L

## APPLICATIONS & FIELDS OF OPERATION

The JOHNSON SCREENS® Multi Rake Bar Screen DEFENDER is suitable for coarse or fine screening and can be employed in municipal or industrial wastewater treatment.

## UNIQUE FEATURES

All the main parts of the JOHNSON SCREENS® Multi Rake Bar Screen DEFENDER are bolted to grant an easy and fast maintenance without removing the screen from the channel. The DEFENDER can be also installed in an angle of 90° to suit installations with limited space.



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