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## 10 Passavant® Multi-Rake Bar Screens with Wash Presses for the new headworks building of the Köhlbrandhöft WWTP in Hamburg, Germany

### Situation

Increase in efficiency with simultaneously lower emissions has been the key driver for the new design of the headworks of the Köhlbrandhöft-North sewage treatment plant in Hamburg.

Hamburg's municipal sewage company AöR planned a two-stage screening system including the screenings treatment for a maximum stormwater inflow of 9 m<sup>3</sup>/s with single redundancy (n+1 channels) in each case. The 5-channel inlet screening equipment has been fully encapsulated including the distribution channels and shut-off devices, thus avoiding odours.



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### Customer

Hamburger Stadtentwässerung AöR  
20539 Hamburg, Germany

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### Commissioning

28. Oktober 2020

## Solution

After a construction period of two years, the new headworks building with 5 fine and 5 coarse screens, each as Passavant®/Geiger® KUR-C Multi-Rake Bar Screen was commissioned at the end of October 2020. These were designed as constant-flow screens with an angle of 75° which were installed in a channel completely lined with PE-HD. Both the coarse and fine screens were fitted with flow-favourable bar profiles in order to keep hydraulic losses as low as possible and thus to increase plant efficiency. Each screen has been equipped with a highly efficient combined conveying, washing and pressing screwpress with a downstream screenings shredder and a baffle for distribution. Troughed belt conveyors transport the screenings from the deflector flaps to the cross conveyors located inside the container building. For redundancy reasons, two conveyor belts are installed behind the coarse screens and two conveyor belts behind the fine screens. The entire construction was carried out in an encapsulated design with correspondingly adapted transitions, so that no emissions are to be expected along with the system.

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## Technical Details

### 5 x Coarse & 5 x Fine screens Passavant® Kettenumlaufrechen KUR-C:

Channel depth:	3,300 mm
Channel width:	2,000 mm
Bar spacing:	6 / 20 mm
Discharge height:	1,500 mm
Installations angle:	75 °
Material:	1.4571
Roller chains in duplex steel	1.4462

### 10 x Noggerath® Screenings washing presses NWP 400

Drive power:	4 kW
Throughput capacity:	5.6 m <sup>3</sup> /h

10 x Penstocks  
6 x Sluice gates  
13 x Stop plates  
Various ventilation pipes and conveying systems



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## Advantages

- Completely hygiene-enclosed system
- No chain wheels in the submerged area
- Flow-favourable bar profiles
- Short cleaning cycles due to the installation of 6 cleaning elements per machine
- Maintenance-free roller chains made of duplex steel

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**Aqseptence Group GmbH**  
**Water Processing Solutions**

**Product Line: Water Treatment**

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