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Intake for Drinking Water Plant - Pagoh, Malaysia

Geiger® MultiDisc® screens as robust, durable and reliable solution for a safe and trouble-free drinking water supply

Situation

In Johor State, South West of Malaysia, Ramhill SAJ operates a new water treatment plant, inaugurated in 2021. The raw water pumping station takes water from Muar River to the treatment plant.

Due to seasonal conditions the river water is often heavily loaded with sand, grit and suspended solids, so the ingress of sediments into the intake channels is an expected challenge of this plant. In addition, also high contents of leaves, branches, trash and fibrous material are floating towards the intake, particularly during monsoon periods.

The raw water pumping station is designed for 80 MLD capacity (3.300 m³/h); it is realized with 3 screening channels.



Commissioning

2021

Challenge

This plant needed an advanced and effective strategy to cope with the high load of sediments and debris in the river water.

Aside from the implementation of grit chambers in the cleaning channels, a robust fine screen technology was the key to minimize risks of damages and plant outages due to broken, blocked or worn-out equipment.

Solution



Bottom sparger



Spray nozzle cleaning

The installed Geiger® MultiDisc® fine screens can easily cope with this condition due to some simple but clever features as integral part of the machine design. For example:

The foot section of the screen is equipped with a sparging device. In regular intervals spray water can be directed to this bottom sparger and flush away the sediments which may have accumulated in front of the machine. This avoids damage respectively enhances longevity of the machine.

Another example is the internal brush cleaning mechanism integrated to the spray water pipe. Potentially clogged spray nozzles due to suspended solids content in the spray water can easily be cleaned from the inside. Thus a reliable functioning of the spray water system is ensured, which in turn is pre-requisite for good screening performance.

Furthermore, the screen design with only one drive chain and strong plastic panels resistant to corrosion and abrasion represents a low-maintenance economic long-term solution.

Technical Details

2x Geiger® MultiDisc® MDS400

Maximum throughput:	1,700 m ³ /h per machine
Channel width:	2.2 m
Channel depth:	8.5 m
Material of construction:	SS304, PE sieve panels (3 mm perforation)

Machines delivered to site in fully assembled condition

Installation of two machines within 1 day



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[Installation Video from Pagoh Site, Dec. 2020:](#)

