

Yanbu Refinery - Kingdom of Saudi-Arabia

PROJECT-REPORT

Geiger® High-Capacity Drum Screens for Seawater Water Intake at the Yanbu Refinery



Challenge

This 2018 contract was a RETROFIT project. Two existing drum screens were replaced by the further developed Geiger® High-Capacity Drum Screens. These were tailor-made so that a smooth integration into the existing civil structure became possible without additional modifications. The project duration from order placement to delivery was a record-breaking 5 months only for fully engineered seawater intake screens.

Solution

The Geiger® High-Capacity Drum Screens had to meet the highest requirements for flow and cleaning. These types of machines are used to clean large quantities of water for cooling or downstream processes.

The Geiger® High-Capacity Drum Screens were installed without modifying the existing concrete structure. Since both existing drum screens were out of order and no longer able to run, the customer needed two new large drum screens at short notice to ensure the functionality of the plant. Following a detailed survey, the Geiger® High-Capacity Drum Screens were designed, manufactured and installed in a record time of less than 5 months.

Technical Data

- 2 channels
- Width: 2.28 m
- Working diameter of the drum screen: 8 m
- Through flow per channel: 10,000 m³/h sea water

- 2 Geiger® High-Capacity Drum Screens
- Material: SS 316L (1.4404)
- Cathodic Protection by means of sacrificial anodes
- Spray water system
- Ultrasonic Sensors for water level difference measurement
- Power and control cabinet

Key Features

- Powerful cleaning
- Light and stable structure due to A-shaped frames
- High reliability: less maintenance and operating costs - no moving parts under water/sleeve bearings
- Easy installation due to prefabricated segments
- Good accessibility to the drive, gearbox and spray water backwash system at deck level
- Geiger® mesh panels flowed through from the inside to the outside guarantee a calm flow of the water to the pump and avoid accumulation of debris at the bottom of the channel
- Intensive cleaning of the mesh panels with pressurized water (spray water system) following gravity



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